DOCUMENT RESUME

ED 356 603 EC 302 043

AUTHOR	Wagner, Mary; And Others
TITLE	What Happens Next? Trends in Postschool Outcomes of Youth with Disabilities. The Second Comprehensive Report from the National Longitudinal Transition Study of Special Education Students.
INSTITUTION	SRI International, Menlo Park, Calif.
SPONS AGENCY	Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE	Dec 92
CONTRACT	300-87-0054
NOTE	341p.; For the First Comprehensive Report, see ED 341 228.
AVAILABLE FROM	SRI International, 333 Ravenswood Ave., Menlo Park, CA 94025-3493 ($32).
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC14 Plus Postage.
DESCRIPTORS	*Disabilities; Dropouts; Education Work Relationship; *Employment Patterns; High School Graduates; Interpersonal Relationship; Longitudinal Studies; *Outcomes of Education; *Place of Residence; Postsecondary Education; Profiles; Quality of Life; Secondary Education; *Social Life; Special Education; Transitional Programs; *Trend Analysis
IDENTIFIERS	*National Longitudinal Transition Study Spec Educ

ABSTRACT

This study, part of the National Longitudinal Transition Study of Special Education Students, compares the postschool experiences of a group of almost 2,000 youth (those who were already out of secondary school in 1987) when they had been out of school less than 2 years with their accomplishments 3 years later. Chapters in the report have the following titles and authors: "A Second Look" (Mary Wagner); "Analytic Overview: NLTS Design and Longitudinal Analysis Approach" (Mary Wagner); "Education after Secondary School" (Camille Marder); "Trends in Employment among Out-of-School Youth with Disabilities" (Ronald D'Amico and Jose Blackorby); "A Place To Call Home: Residential Arrangements of Out-of-School Youth with Disabilities" (Lynn Newman); "'A Little Help from My Friends': The Social Involvement of Young People with Disabilities" (Mary Wagner); "More Than the Sum of the Parts: Life Profiles of Out-of-School Youth with Disabilities" (Mary Wagner); and "Transition: Changes, Challenges, Cautions" (Mary Wagner). Almost 60 tables and over 50 figures graphically depict the study findings, and references accompany each chapter. Findings indicated that youth with disabilities who dropped out of high school were less likely than others to return to high school or to earn high school equivalency degrees; over the 3-year period, there were increases in overall employment and in full-time employment, but youth with disabilities continued to hold relatively low-status jobs. Appendixes provide background information on the NLTS sample, variable specifications, supplementary statistical tables, and a list of products available from the NLTS. (JDD)

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WHAT HAPPENS NEXT? TRENDS IN POSTSCHOOL OUTCOMES OF YOUTH WITH DISABILITIES

The Second Comprehensive Report from the National Longitudinal Transition Study of Special Education Students

December 1992

Prepared for:

The Office of Special Education Programs
U.S. Department of Education

Prepared by:

Mary Wagner
Ronald D'Amico
Camille Marder
Lynn Newman
Jose Blackorby

The National Longitudinal Transition Study of Special Education Students is being conducted by SRI International under Contract 300-87-0054 with the Office of Special Education Programs, U.S. Department of Education.

EC 302043

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National Longitudinal Transition Study

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EXECUTIVE SUMMARY

The 1983 amendments to the Education of the Handicapped Act (P.L. 98-199) codified the federal commitment to improving the transition from secondary school to adult life for youth with disabilities. That legislation has been followed by a flurry of policies, programs, and research at the federal, state, and local levels, all geared toward supporting more effectively youth with disabilities in transition to adulthood.

As part of the federal transition research program, the National Longitudinal Transition Study of Special Education Students (NLTS) has been reporting on the experiences of youth with disabilities in the areas of education, employment, and personal independence. The NLTS, being conducted by SRI International under contract to the Office of Special Education Programs of the U.S. Department of Education, is a 6-year, congressionally mandated study that is providing information about youth with disabilities nationally as they move through secondary school and beyond.

The NLTS includes more than 8,000 youth nationwide who were students in special education in secondary schools in the 1985-86 school year. Data were collected in 1987, 1989, and 1990 from telephone interviews with youth and/or parents, from surveys of teachers and school administrators, and from students' school records. *What Happens Next?* reports on one group of youth—those who were already out of secondary school in 1987—and compares their postschool experiences when they had been out of school less than 2 years with their accomplishments 3 years later. Specifically, it addresses the following questions:

- What were the trends in postschool outcomes for youth as the years after high school increased? Were rates of postsecondary education, employment, residential independence, and social activity trending upward or downward, or were they largely unchanged?

- How did trends in outcomes for youth with disabilities compare with those for youth in the general population? Was the "gap" between youth with disabilities and the general population of youth narrowing? Widening? Constant?

- Which youth were experiencing relatively better or worse outcomes (e.g., what variations exist in outcomes by disability category, gender)?

- What fluctuations in outcomes did youth experience over time? Was employment a fairly stable experience, for example, or did youth move in and out of jobs over the time period addressed?

Major Findings

Education After Secondary School

Earlier work from the NLTS demonstrated that youth with disabilities dropped out of secondary school at a significantly higher rate than did youth in the general population. Analyses in *What Happens Next?* suggest that, once they dropped out, youth with disabilities also were less likely than others to have returned to high school or to have earned high school equivalency (GED) degrees. When secondary school dropouts with disabilities had been out of school less than 2 years, only 13% had reenrolled in secondary school or in equivalency programs. Three years later, 27% of them had done so at some time since leaving high school. In comparison, dropouts in the general population were about twice as likely as dropouts with disabilities to have completed high school after dropping out. Three to 5 years after leaving high school, almost one-third of youth with disabilities still had not earned high school diplomas, equivalency diplomas, or certificates of completion.

In the realm of postsecondary education, about one-fourth of youth with disabilities who had been out of high school 3 to 5 years had been enrolled in postsecondary vocational schools or 2-year or 4-year colleges at some time since high school, almost twice as many as had been enrolled in the first 2 years after high school. This compares with 68% of youth in the general population. The higher dropout rate of youth with disabilities only partly explains their lower postsecondary school enrollment relative to the general population of youth. Even among high school graduates, postsecondary education was much less common among youth with disabilities than among those in the general population (31% vs. 75%). The difference between the two groups was due entirely to the difference in college enrollment (24% vs. 65%). However, some categories of youth enrolled in postsecondary schools at rates closer to those of the general population (e.g., 68% of hard of hearing graduates had gone on to postsecondary education). Three to 5 years after high school, only about 1 in 9 youth with disabilities had earned some kind of postsecondary education degree, certificate, or license (mostly from vocational schools), and 6% were still enrolled in postsecondary schools.

The lower level of educational attainment of many youth with disabilities relative to the general population does not bode well for their long-term economic future. Postsecondary credentials bring economic gains in the labor market. The general population of youth will continue to reap the benefits of their investment in postsecondary education, particularly when those in 4-year colleges complete their degrees and enter the work force. Because they participated much less in postsecondary education, similar benefits will not accrue to youth with disabilities to nearly the same degree. As a result, the gap in employment and earnings between youth with disabilities and youth in the general population may widen in the future.

Postschool Employment

NLTS data demonstrate significant improvement in a number of major employment outcomes among youth with disabilities over the 3-year period studied. For example, there was an 11 percentage point increase in the overall employment rate, an 18 percentage point increase in youth with disabilities working full time, and a 31 percentage point increase in working youth who earned more than $6.00 per hour. On the other hand, there was little aggregate movement in the types of occupations held by youth with disabilities as they continued to hold relatively low-status jobs.

Youth in the general population made similar gains in virtually every employment outcome over the same period of time. Thus, the gap in employment outcomes between the two groups of youth in the early years after secondary school remained substantial 3 years later. In addition, perhaps because of their greater participation in postsecondary education, youth in the general population experienced a shift toward higher-status occupations that did not occur among youth with disabilities.

Increases in the rates of competitive paid employment, full-time employment, and wages were concentrated among youth in only a few disability categories. For example, youth with learning disabilities were employed at rates virtually identical to those of youth in the general population. However, few other disability groups had such a degree of improvement. In addition, females, minority youth, and those who dropped out of high school did not experience the gains exhibited by males, white youth, and high school graduates.

Sheltered employment was an option used by only a limited number of youth with disabilities; 5% of youth had paid sheltered jobs when they had been out of school 3 to 5 years. However, sheltered sites were the employment settings for about one-fourth of youth with multiple handicaps, including those who were deaf/blind.

Thus, there appear to be both encouraging and worrisome aspects to the employment picture for youth with disabilities 3 to 5 years out of high school. Despite the gains in employment and wages, few youth had incomes sufficient to support independent living much above the poverty level. However, most employed youth appeared relatively happy with their work lives and were hopeful about the future. Further, more than half of nonemployed youth with disabilities were not seeking employment, largely by choice or because of involvement in other activities, such as raising children or attending school or a training program.

Residential Arrangements

As youth with disabilities were out of secondary school for a longer period, there was a marked increase in the frequency of independent living arrangements. The rate of living independently more than tripled, from 11% less than 2 years out of secondary school to 37% 3 years later. Virtually all of the gain in living independently resulted from youth who had previously lived with family members and had left their family homes to begin independent households. Despite these gains, youth with disabilities were only about half as likely to be living independently as were youth in the general population when they had been out of secondary school 3 to 5 years.

Very few youth with disabilities (4%) were living in supervised settings when they had been out of school for less than 2 years, with no significant change as youth were out of school longer. However, among youth with more severe impairments, such as those classified as multiply handicapped or deaf/blind, about one-third of youth lived in supervised settings. Another 4% of youth were living in "other" residential arrangements, including correctional facilities, shelters for the homeless, halfway houses, drug rehabilitation centers, and runaway centers. Correctional facilities were home to 3% of youth.

Despite the strong and generally pervasive movement toward residential independence on the part of many youth with disabilities, more than half continued to live in their family homes when they had been out of secondary school 3 to 5 years. Although this arrangement was reported to be satisfactory for the time being by a majority of parents (74%), more than half of youth (59%) wanted to be living elsewhere.

More than 1 in 5 parents whose children with disabilities were not living independently when they had been out of school less than 2 years doubted that they ever would. Although some of those youth proved their parents wrong and were living independently 3 years later, the vast majority were not. If parent expectations are correct for the remaining youth, there will be a considerable future demand for supervised living arrangements.

Social Involvement

NLTS data suggest a marked decline over time in the frequency of youths' social interactions; the percentage of youth seeing friends or family members socially at least 4 days a week declined from about half of youth to 38% over the 3-year period studied by the NLTS. Similarly, group memberships became less common. However, most youth had frequent contacts with parents, with more than half living with parents when they had been out of secondary school 3 to 5 years and another 29% having contact with parents more than once a week.

Despite less frequent social interactions with friends, youth were not moving away from social interactions entirely. Only 5% to 6% of youth at either time period were socially isolated—that is, seeing friends less often than weekly, not belonging to groups, and not being married or engaged. However, the obstacles to social involvement presented by multiple disabilities are evident. Youth with multiple handicaps or who were deaf/blind were the least socially involved, either in informal friendship or family networks or in more organized social activities.

Youth may have been turning to their own newly formed households and families for social support. There was a steep increase in the rate at which young people with disabilities were married or living with someone of the opposite sex (7% 2 years after secondary school, 19% 3 years later). Despite this gain, youth with disabilities were less likely to be married than were youth in the general population 3 to 5 years after secondary school (19% vs. 30%).

Almost 1 in 4 youth with disabilities were parents when they had been out of secondary school 3 to 5 years (24%). Women with disabilities were more than twice as likely as young men to be parents (41% vs. 16%), and were significantly more likely than women in the general population to be parents (41% vs. 28%). One in 5 females with disabilities were single mothers. The rate of single motherhood among young women with disabilities was significantly higher than that for women in the general population (20% vs. 12%). Early parenthood, particularly single parenthood, often creates serious challenges to creating stable, financially independent families. Combined with the challenges posed by their disabilities, these young mothers and their children may face particularly difficult futures.

Finally, findings regarding two aspects of citizenship—being registered to vote and arrest rates—demonstrate that many youth with disabilities did not exhibit good citizenship. Arrest rates climbed steeply for youth with disabilities. Two years after leaving secondary school, 19% were reported ever to have been arrested, increasing to 30% when youth had been out of secondary school 3 to 5 years. Youth with disabilities also were less likely to be registered to vote than were other youth.

Life Profiles

In this report, the NLTS has explored a new approach to measuring the independence of out-of-school youth with disabilities by creating "life profiles" of youth that capture their overall levels of independence in three domains: productive engagement outside the home (paid or unpaid work, job training, GED preparation, or postsecondary education/training), residential arrangement, and social involvement. Six profiles describe the range of youth from those who were independent in all three domains (profile 1) through those who were institutionalized (profile 6).

These profiles depict a significant movement toward greater general independence for youth with disabilities overall and for youth in most disability categories. By the time youth had been out of secondary school 3 to 5 years, 20% had the most independent profile, depicting youth who were functioning independently in all three domains; this compares with only 6% of youth being as independent 3 years earlier. Another 43% of youth had profile 2, functioning independently in two of the domains addressed by the profiles, an increase of 12 percentage points over the earlier time period. These figures bespeak true accomplishments for many youth.

Consistent with increases in the more independent profiles, there were decreases in profiles characterized by less independence. However, 3 to 5 years after secondary school, 17% of youth still were independent in the engagement and residential domains; 3% of youth were institutionalized and not involved in productive activities.

We must be cautious about the increases in independence noted in analyses of life profiles. The profiles imply that youth with the most independent profile have, in some sense, "made it." Profile 1 implies the greatest independence captured by this construct, but we should not be tempted to consider it a sufficient achievement for young people moving into adulthood. We are reminded that the full-time productive engagement outside the home that was common for the most independent youth still frequently meant employment at relatively low-skill and low-paying jobs. Further, NLTS data suggest that support services might enable youth to achieve even greater independence in the future—services that parents report are needed by many youth but not currently being provided.

Transition: Changes, Challenges, Cautions

The analyses presented in this report address trends in particular postschool outcomes of youth with disabilities: employment, postsecondary education, residential arrangements. What happens when our attention is given to the youth themselves, rather than to their transition outcomes? What pictures emerge when our focus is on youth with a particular kind of disability? Or on young women? Or on dropouts?

Disability Category—A Broad Spectrum of Experience

Earlier NLTS work has demonstrated the wide variation in experiences of youth with different disability classifications. This section summarizes what we have learned about the trends in postschool outcomes of youth with different disability classifications.

- *Youth with learning disabilities or speech impairments.* In many respects, these youth were the relative success stories in the transition arena. They experienced the largest increases in employment overall, and in full-time employment in particular, so that when they had been out of secondary school 3 to 5 years, their rates of employment were virtually equal to those of youth in the general population. Forty percent or more were living independently 3 to 5 years after leaving school, a sizable increase in residential independence over the earlier time period. These youth were among the most socially active; few were socially isolated.

  However, youth with learning disabilities or speech impairments had among the highest dropout rates of youth in any disability category, and very few had returned and completed their secondary educations 3 to 5 years after leaving school. Further, only about 15% of youth with learning disabilities or speech impairments had completed a postsecondary education program, and few were continuing to work toward that goal. This relatively low rate of involvement in postsecondary education may mean that these youth will reach a "ceiling" in their progress toward independence.

- *Youth with multiple disabilities.* As youth moved farther into their early adult years, we see the pervasive and significant challenges to independence posed by multiple disabilities. Whereas the employment rate for youth with disabilities as a whole increased by 11 percentage points over the 3-year time period studied by the NLTS, the rate for those classified as multiply handicapped or deaf/blind was virtually unchanged. Whereas one-third of high school graduates with disabilities had enrolled in postsecondary schools 3 to 5 years after high school, only 14% of graduates with multiple handicaps had done so. Youth with disabilities as a whole experienced a 26 percentage point increase in independent living over the time period; among youth with multiple impairments, the trend was flat, and only 13% were living independently 3 to 5 years after leaving secondary school. More than one-third were living in supervised settings. Youth with multiple impairments were 4 times as likely as other youth with disabilities to be socially isolated.

  Coupled with these somewhat discouraging findings, however, are some hints of what may well have been real personal triumphs for those involved. When youth with multiple disabilities had been out of secondary school less than 2 years, almost one-fourth of their parents reported that they doubted the youth would ever be able to live on their own without supervision in the future; about 25% of those youth had proven their parents wrong and established independent living arrangements in the subsequent 3 years.

- *Youth with mental retardation.* In the social domain, youth with mental retardation were as socially active as youth in virtually any disability category. As a group, they saw friends often and were as likely as any other category of youth to belong to social or community groups. Few were socially isolated. Neither were youth with mental retardation significantly different from youth with disabilities as a whole in the rate at which they were married or registered to vote. The arrest rate 3 to 5 years after secondary school for youth with this classification was lower than that for youth with disabilities as a whole (18% vs. 30%).

  Good news is apparent, too, in the employment and residential domains, where youth with mental retardation experienced significant improvements over time. For example, youth classified as mentally retarded experienced a 12 percentage point gain in employment over 3 years, as large as that for youth with disabilities as a whole or youth in most other categories. Still, 3 to 5 years after secondary school, only 37% of youth with mental retardation were competitively employed, compared with 57% of youth with disabilities as a whole.

- *Youth with emotional disturbances.* Charting the trends in the postschool experiences of youth classified as seriously emotionally disturbed reinforces the concern about them raised in earlier NLTS work. More than half of these youth had dropped out of school; only 3% subsequently completed secondary school or equivalency programs. Their postsecondary school enrollment rate was among the lowest rates exhibited by youth in any disability category. Although they had been fairly successful in finding jobs in the first 2 years out of high school, the gains in employment noted for some other categories of youth were not realized by youth with serious emotional disturbances. Further, their job experiences were characterized by greater instability than were the experiences of others.

Perhaps most disturbing, however, is their continuing pattern of poor social integration. Although they were quite active in informal networks with family and friends, they were among the least likely youth to belong to social or community groups or to be registered to vote. By the time they had been out of school 3 to 5 years, almost 6 of 10 youth with emotional disturbances had ever been arrested; 18% had been arrested for the first time in the preceding 3 years, suggesting that problems with the law were not abating. Among the half of youth in this disability category who had dropped out of school, the arrest rate reached 73%. The poor social integration of these youth exacts a high price, both from them and from society.

- *Youth with sensory impairments.* Although youth classified as deaf, hard of hearing, or visually impaired faced very different challenges in adapting to their disabilities, their experiences in several arenas after high school were quite similar. They shared a common rapid rise in the extent of their residential independence and a greater propensity toward group memberships than were exhibited by youth with many other disability classifications.

  They also shared a somewhat troublesome pattern of experience in the job market, experiencing no significant gains in paid competitive employment rates. About 40% of those with hearing impairments and 60% of those with visual impairments were not employed either when they had been out of school less than 2 years or 3 years later. Despite this somewhat discouraging employment picture in the early postschool years, their longer-term prospects may be more encouraging. They were among the most likely to graduate from secondary school, and 3 to 5 years after secondary school about 60% had been postsecondary school students, a rate virtually as high as that of youth in the general population. They also were among the categories of youth most likely to have enrolled in 4-year colleges and to have been full-time, rather than part-time students. Three to 5 years after secondary school, about 40% of youth with sensory impairments had received postsecondary degrees, licenses, or certificates or were working toward them. The skills acquired through their continued schooling may give them the tools to move forward in the labor market in subsequent years.

- *Youth with physical impairments.* Some similarities were found in the experiences of youth with orthopedic impairments and those classified as other health impaired. For example, in the social domain, when they had been out of school 3 to 5 years they were about equally likely to be married (17% and 16%) and registered to vote (55% and 58%), to belong to groups (24% and 21%), and to have been arrested (8% and 9%). However differences in experience are just as noticeable. In the employment domain, for example, youth with orthopedic impairments had a pattern of poorer employment outcomes than did youth with other health impairments. Youth classified as orthopedically impaired were less likely than other health impaired youth to be competitively employed currently (22% vs. 40%) or ever since high school (55% vs. 83%). They also were marginally less likely to have enrolled in postsecondary schools (46% vs. 56%).

Even with the stronger outcomes experienced by youth with other health impairments relative to those with orthopedic impairments, neither category of youth approached the level of employment of youth with disabilities as a whole, and they were even farther from the employment level of youth in the general population. Further, gains in employment over time were not large for these youth. Residential independence, too, was difficult to achieve; those with other health impairments were the most likely, of youth in any disability category, still to be living with family members 3 to 5 years after secondary school (72%).

Gender Differences in Postschool Outcomes

Young women with disabilities exhibited a markedly different pattern of experiences after leaving secondary school than did their male counterparts with disabilities. In important respects, they also differed from young women in the general population. Central to their experience was the predominance of their roles as wives and/or mothers.

Three to 5 years after leaving school, almost one-third of women with disabilities were married, compared with 15% of men. Although young women with disabilities were no more likely than women in the general population to be married, they were significantly more likely to be mothers. When they had been out of school 3 to 5 years, 41% of women with disabilities were mothers, compared with 28% in the general population of young women. One in 5 single women with disabilities were mothers, a significantly higher incidence of single parenthood than among young women in the general population. Motherhood was particularly common among female dropouts with disabilities; 54% were mothers, a significantly higher rate of parenting than that among females with disabilities who graduated.

The demands of homemaking and motherhood on young women with disabilities may help explain their lower level of involvement, relative to young men, in many activities outside the home. Women did not share the large increase in employment noted for men. Women's jobs were much less likely to be full time than were jobs held by men. Women also were significantly less likely to be earning more than $6.00 per hour, perhaps because of their concentration in part-time jobs, which generally paid less. In the social arena, too, young women were less prone to see friends often and less likely to belong to groups, showing a significant decline in group membership over time that was not experienced by men.

There is cause for concern for the future of young mothers with disabilities and their children. Earlier NLTS analyses have shown that youth with disabilities, compared with the general population of youth, came from households that were disproportionately poor and headed by single parents. In this report we may see the beginning of another generation of children disproportionately from single-parent families. The challenges of disability and single parenting also may put future economic independence out of reach for many young mothers with disabilities.

Ethnic Differences in Outcomes

Although minority youth experienced gains in many postschool outcomes, the gap between white and minority youth on measures of effective transition that was observed in the early years after high school largely was sustained in the subsequent 3 years. Contrasts between the experiences of white and black youth will illustrate this pattern.

Black youth experienced the largest gain in employment of youth in any ethnic group—22 percentage points. However, white youth still were significantly more likely than blacks to be working in competitive paid jobs 3 to 5 years after high school (62% vs. 47%). Further, white youth who were working showed a significant increase in wages that was not demonstrated by black youth. In the social arena, youth with different ethnic backgrounds were about equally likely to be parents, but black youth were significantly less likely than white youth to be married. The difference in marriage rates is largely among young women; 7% of black women with disabilities were married, compared with 39% of young white women with disabilities. The majority of single mothers with disabilities were nonwhite women. Because marriage and employment both were highly related to living independently, it is not surprising that in the residential domain, white youth were more likely than black youth to be independent. Black youth were more likely than whites to be institutionalized, largely because of their higher rate of arrest and incarceration.

These findings suggest that minority status may present further obstacles to successful transitions beyond those that youth experience because of disability alone.

High School Graduation: A Firm Foundation

The current national education goal to increase the proportion of youth in this country who graduate from high school presumes that graduation provides benefits for those obtaining the diploma. In the context of youth with disabilities, the evidence for the importance of high school graduation is compelling.

High school graduates experienced the steepest rise in most employment indicators over time; those who dropped out or aged out of school showed no significant increase in employment overall or in full-time employment. Three to 5 years after secondary school, 65% of graduates were working in competitive paid jobs, compared with 47% of dropouts and 37% of youth who aged out of school. Despite the fact that graduates and dropouts were about equally likely to be married, graduates were much less likely to be parents, with the concomitant lower level of demand that children place on the emotional and financial resources of parents. Graduates also were more likely than other youth to be registered to vote and were significantly less likely than dropouts to have been arrested. Graduates continued to participate in postsecondary education at higher rates than other youth, so that when they had been out of secondary school 3 to 5 years, more than one-third of graduates with disabilities had been postsecondary students at some time since leaving high school, compared with 11% and 18% of those who dropped out or aged out, respectively. More than one-fourth of graduates had earned postsecondary degrees, licenses, or certificates, or were working toward them. With those credentials, the growing gap between graduates and other youth, favoring graduates, promises to widen even further in the future.

However, even among high school graduates, those with disabilities were lagging behind their peers in the general population. Although graduates were more likely than others with disabilities to go on to postsecondary school, they were significantly less likely than graduates in the general population to do so. Similarly, graduates with disabilities were more successful in finding relatively better jobs than were other youth with disabilities, but their employment rate continued to be significantly below that of youth in the general population. Hence, a high school diploma alone does not mean that graduates with disabilities are playing on a level field relative to their peers without labeled disabilities.

A Summing Up

The longitudinal look at the trends in postschool outcomes of youth with disabilities in *What Happens Next?* has demonstrated significant achievements for those making the transition from adolescence to young adulthood. However, comparison between outcomes for youth with disabilities and youth in the general population also indicates the challenges facing young people with disabilities. Their experiences present challenges to others as well—to policymakers, advocates, educators, service providers, researchers, and parents who are committed to helping youth with disabilities achieve their potential as adults. The effects of disability on young people's lives are unlikely to be eliminated entirely, no matter how intensive the effort; disability implies a reduction in function that may influence the outcomes of individuals for their lifetimes. Yet the ongoing active federal role in legislation and programming for persons with disabilities, illustrated by the Americans with Disabilities Act and the transition initiative in the Individuals with Disabilities Education Act, for example, indicates a commitment at the highest level of government to continued efforts to help persons with disabilities meet the challenges they face.

The NLTS is privileged to have captured something of the experiences of young people with disabilities at this crucial time of transition and to have communicated those experiences to others. It is our hope that with an improved understanding of the dynamic nature of postschool experiences, those who make policy, advocate for and shape legislation, and design and implement programs can approach those activities with a better sense of the problems of transition and their solutions, a surer idea of targets for change, and a renewed sense of the value of their undertakings.

1 A SECOND LOOK

by Mary Wagner

The 1983 amendments to the Education of the Handicapped Act (P.L. 98-199) codified the federal commitment to improving the transition from secondary school to adult life for youth with disabilities. That legislation authorized federal funding for "Secondary Education and Transition Services for Handicapped Youth" (section 626).

A year later, Assistant Secretary for Special Education and Rehabilitative Services Madeline Will described the federal initiative that would transform the legislative mandate into programs and services, both within secondary schools and in society more broadly, in support of youth with disabilities as they moved toward employment and independence in adulthood. Will announced a "broad based strategy of research, development, demonstration, and replication" aimed at better understanding and influencing the transition process (Will, 1984). Additional emphasis on secondary school preparation for work and adulthood came with the 1984 passage of the Carl D. Perkins Vocational Education Act (P.L. 98-524), which supported vocational assessment and services for secondary school students with disabilities in the least restrictive environment and set aside funds explicitly for those services.

At the same time that these legislative actions highlighted the importance of transition issues in serving persons with disabilities, there was a rapidly growing constituency for transition programs and services. Between 1977 and 1985, for example, there was an 88% increase in the number of students with disabilities in secondary schools who were ages 18 to 21 (Halloran, Thomas, Snauwaert, and DeStefano, 1987), ages at which transition issues are particularly pertinent.

In the ensuing years, the number of programs addressing transition issues at federal, state, and local levels increased dramatically. Groundbreaking interagency agreements, new curricula and instructional models, and innovative approaches to placement in schools and in jobs have emerged nationwide (DeStefano and Wermuth, 1992). The national special education research agenda, too, has attended to the transition arena.

For example, follow-up studies of exiters from special education have been or are being conducted in many states, including California (Haynes, 1990), Colorado (Mithaug, Horiuchi, and Fanning, 1985), Connecticut (McGuire, Archambault, Gillung, Hafner, and Strauch, 1987), Iowa (Sitlington and Frank, 1989; Sitlington, Frank, and Cooper, 1989; Sitlington, Frank, and Carson, 1990), New Hampshire (Institute on Disability, 1991), Washington (Edgar, Levine, Levine, and Dubey, 1988; Affleck, Edgar, Levine, and Kortering, 1990), and Vermont (Hasazi, Gordon, Roe, and Hull, 1985). Transition outcomes of youth with disabilities in individual school districts also have begun to be measured as indicators of the effectiveness of school programs (for example, Zigmond and Thornton, 1985; Kranstover, Thurlow, and Bruininks, 1989; Siegel, Robert, Waxman, and Gaylord-Ross, 1990).

However, differences in the samples, timing, and measurement of these studies, as well as their geographic limitations, have made it difficult to assemble a coherent view of transition experiences that applies to youth nationally, to youth with all forms of disability, and to youth at various stages in the transition process.* For example, the Iowa study addresses the transition outcomes of youth at 1, 3, and 5 years after secondary school, whereas the Vermont study groups youth who have been out of school from 1 to 4 years, and the Colorado study includes youth out of school 3 to 4 years. Similarly, some studies focused only on secondary school graduates (e.g., Mithaug, Horiuchi, and Fanning, 1985), some included youth with only mild disabilities (e.g., Affleck et al., 1990), and some involved only youth who had experienced particular services or treatments (e.g., Schalock, Harper, and Carver, 1981; Schalock and Lilley, 1986; Siegel et al., 1990). More comprehensive national data were needed to guide national policy.

At the national level, important information on transition experiences of youth with disabilities is flowing from the National Longitudinal Transition Study of Special Education Students (NLTS). This study, mandated in 1983 by the U.S. Congress as part of P.L. 98-199, is sponsored by the Office of Special Education Programs (OSEP) of the U.S. Department of Education. OSEP contracted in 1985 with SRI International to design a longitudinal study of youth with disabilities in secondary school and in transition to adulthood that would assess their education, employment, and independent living experiences. In 1987, under a separate contract, SRI began the study.

From these local, state, and national research bases has emerged a fairly consistent picture of the transition experiences of youth in the early postschool years. At first glance, the picture is not rosy. Overall, dropout rates were high. Employment rates were low, and so were wages. Few youth were getting postsecondary education or training, and relatively few were achieving residential independence.

When we go beyond this first glance, however, the wide variations in youths' transition experiences become evident. Youth with some kinds of disabilities fared reasonably well along some dimensions, but poorly on others. For example, youth with visual impairments had high rates of high school graduation but low rates of postschool employment. Youth with learning disabilities dropped out of school at higher rates than many other youth, but achieved employment at higher rates as well. All in all, transition outcomes in the early postschool years were a mixed bag—a glass half empty or half full, depending on one's perspective.

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* Because these differences in samples, timing, and measurement create important noncomparabilities, in this report we do not directly or systematically compare NLTS findings on particular measures (e.g., employment rates, dropout rates) reported in other follow-up or follow-along studies.

This emerging information on the transition experiences of youth with disabilities has prompted further policy and research initiatives. For example, in recognition of the difficulties many youth have in the transition out of secondary school, the recently enacted Individuals with Disabilities Education Act (IDEA, P.L. 104-476) includes a requirement that schools develop transition plans for all youth with disabilities who are 16 years old or older. In the research arena, the early efforts of follow-up and follow-along studies to define and measure outcomes of special education have pointed up the difficulties inherent in that process (DeStefano and Wagner, 1991). In response, OSEP has funded the multiyear National Center on Educational Outcomes for Students with Disabilities (University of Minnesota) to advance the conceptual underpinnings of outcome assessment in special education and the state of the art in outcome measurement and data generation.

Thus, the first generation of transition studies have been extremely useful in many important respects. But transition is a process that continues beyond the first few years after secondary school that are described in much of the early research. What happens next? Did the employment picture improve with the passage of time? Perhaps youth were not eager to pursue postsecondary education immediately after secondary school but turned to it later. If we look at youth with disabilities a few years later, do we find that the glass was filling or draining?

There are reasons to expect that outcomes for youth would improve with time. Research on youth in the general population suggests that an early "floundering period" is common for youth after secondary school, but that their circumstances stabilize in time as they gain experience with employment and complete postsecondary education and training. However, the situation of youth with disabilities may differ from this pattern. In their early postschool years, youth with disabilities may rely heavily on their secondary school training and experiences and on arrangements for jobs, schooling, or services made for them during secondary school. As circumstances change with the passage of time, some youth who need continued support may not find it, resulting, for example, in the loss of initial jobs and the inability to find replacements. Which of these scenarios do we see, and for which kinds of young people, if we look again at youth with disabilities a few years later? Answers to these kinds of questions will be important in the continued development of transition policy and programs.

Taking a later look at youth with disabilities in transition is the purpose of this report. We return to a group of youth who in 1987, at the time of the initial NLTS data collection, had been out of secondary school no more than 2 years. They and/or their parents were interviewed again in 1990, when, as a group, they had been out of secondary school 3 to 5 years. By comparing the outcomes of these youth at the two points in time, we learn much about how the transition process unfolded for them as time passed. Specifically, we address the following questions:

- What were the trends in postschool outcomes for youth as the years after high school increased? Were rates of postsecondary education, employment, residential independence, and social activity trending upward or downward, or were they largely unchanged?

- How did trends in outcomes for youth with disabilities compare with those of youth in the general population? Was the "gap" between youth with disabilities and the general population of youth (Marder and D'Amico, 1992) narrowing? Widening? Constant?

- Which youth were experiencing relatively better or worse outcomes (e.g., what variations exist in outcomes by disability category, gender)?

- What fluctuations in outcomes did youth experience over time? Was employment a fairly stable experience, for example, or did youth move in and out of jobs often over the time period we address?

These questions focus our attention on the young-adult outcomes of youth with disabilities, one component of the much broader conceptual framework that has guided the NLTS from its initial design (Figure 1-1, Box E).[*] The longitudinal perspective underlying the research questions of this report is critical to understanding the dynamic quality of youths' experiences as they grow farther away from their roles as secondary school students and into adulthood.

Before we turn to our examination of the postschool outcomes of youth with disabilities highlighted in Figure 1-1, it is important to summarize some characteristics of the youth themselves. As Figure 1-1 suggests, individual characteristics (Box A) influence many aspects of youths' experiences. Understanding several disability and demographic characteristics of youth is an important backdrop for interpreting their postschool outcomes.

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[*] This report, with its focus on postschool outcomes, is one of numerous products from the NLTS that address the variety of topics suggested in the conceptual framework in Figure 1-1. See Appendix B for a list of other materials available to date from the NLTS. Although the NLTS entails no further data collection, analyses will be conducted and further reports issued through April 1993.

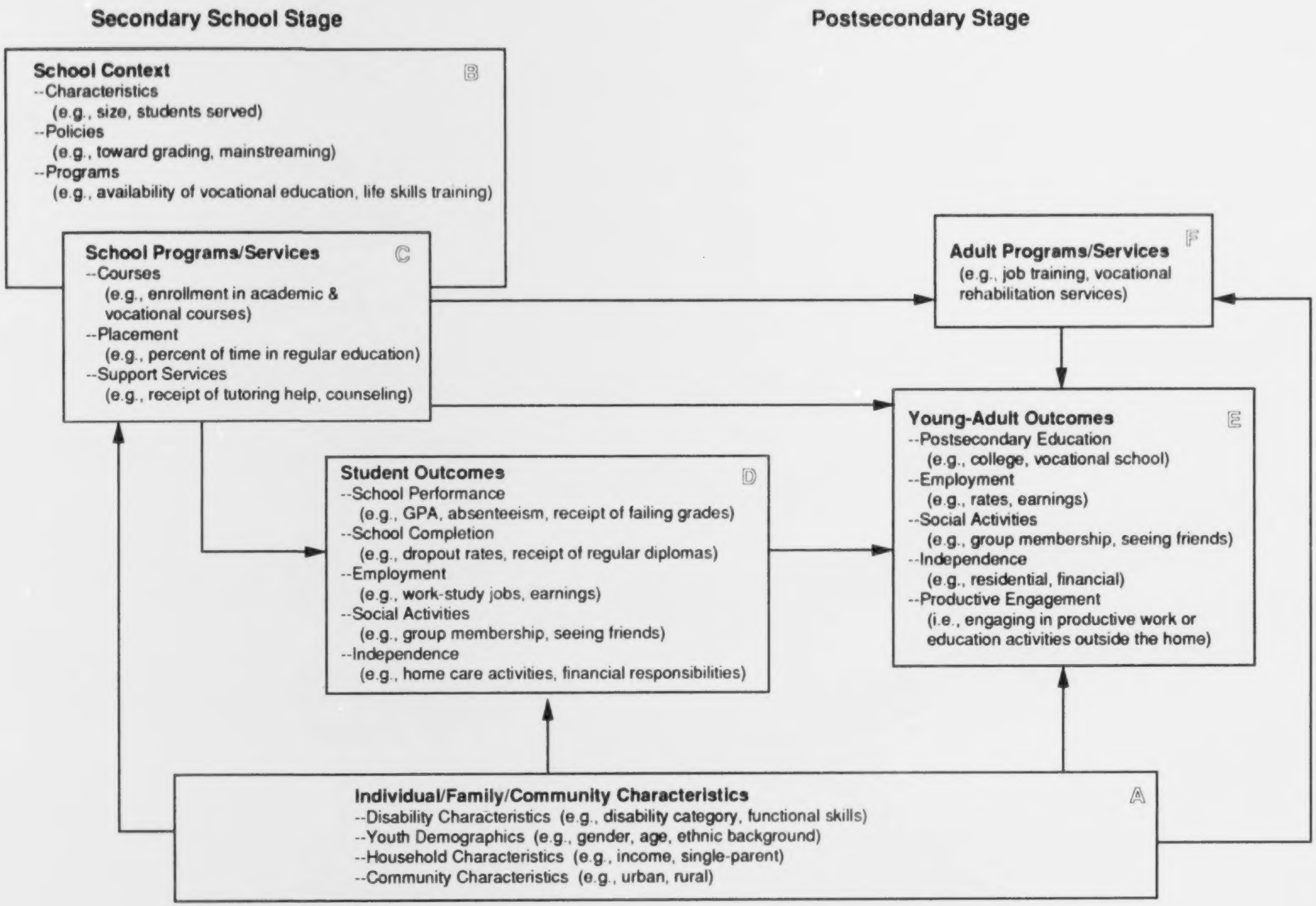
Secondary School Stage
Postsecondary Stage
School Context
B
--Characteristics
(e.g., size, students served)
--Policies
(e.g., toward grading, mainstreaming)
--Programs
(e.g., availability of vocational education, life skills training)
School Programs/Services
C
--Courses
(e.g., enrollment in academic & vocational courses)
--Placement
(e.g., percent of time in regular education)
--Support Services
(e.g., receipt of tutoring help, counseling)
Adult Programs/Services
F
(e.g., job training, vocational rehabilitation services)
Young-Adult Outcomes
E
--Postsecondary Education
(e.g., college, vocational school)
--Employment
(e.g., rates, earnings)
--Social Activities
(e.g., group membership, seeing friends)
--Independence
(e.g., residential, financial)
--Productive Engagement
(i.e., engaging in productive work or education activities outside the home)
Student Outcomes
D
--School Performance
(e.g., GPA, absenteeism, receipt of failing grades)
--School Completion
(e.g., dropout rates, receipt of regular diplomas)
--Employment
(e.g., work-study jobs, earnings)
--Social Activities
(e.g., group membership, seeing friends)
--Independence
(e.g., home care activities, financial responsibilities)
Individual/Family/Community Characteristics
A
--Disability Characteristics (e.g., disability category, functional skills)
--Youth Demographics (e.g., gender, age, ethnic background)
--Household Characteristics (e.g., income, single-parent)
--Community Characteristics (e.g., urban, rural)

FIGURE 1-1 CONCEPTUAL FRAMEWORK OF TRANSITION EXPERIENCES AND OUTCOMES OF YOUTH WITH DISABILITIES

Youth with Disabilities After Secondary School: Who Are They?

Although the NLTS includes a sample of more than 8,000 youth with disabilities, all of whom were ages 13 to 21 and secondary school students in special education in the 1985-86 school year,* this report focuses on only a subset of those youth. Because our interest is in trends in the experiences of youth after secondary school, analyses here include only youth who already had left secondary school by September 1987, the time of the initial NLTS data collection. At that time, youth had been out of secondary school from a few months (e.g., graduates from high school in June 1987) to 2 years (e.g., dropouts from early in the 1985-86 school year). Data were collected again in 1990 for the same youth, when they had been out of secondary school generally between 3 and 5 years.** Our analyses include only youth for whom data were collected at both points in time so that trends over time can be tracked.*** Because of skip patterns or missing data for particular items, samples vary slightly, but those in most analyses range from approximately 1,750 to 1,950, depending on the outcome being considered; samples for subsets of youth (e.g., characteristics of jobs held by employed youth) are smaller.

Data reported here have been weighted so that the subsample of youth for whom they were collected represent the national population of youth with disabilities who had been in secondary school in 1985-86 and had left school by September 1987 (see Chapter 2 for more details on NLTS weighting).

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* See Chapter 2, Appendix A, and Javitz and Wagner (1990) for more details on the NLTS design and sample.

** The cohort analyzed in this report includes youth who varied by 2 years in the length of time they had been out of school; i.e., the group had been out of school from a few months to 2 years at the first measurement point and from 3 to 5 years at the second. Two years can make an important difference in some postschool experiences of youth, a difference that is masked when youth are grouped together. For example, 82% of youth out of school up to 1 year lived with family members, compared with 69% of youth out of school 1 to 2 years (Valdes, Williamson, and Wagner, 1990). When the two cohorts are combined, this year-by-year information is lost. However, the sample size of single-year cohorts is too small to examine variations by disability category with an acceptable level of precision. Hence, we analyze a 2-year cohort of youth, trading off the loss of more detailed information about progression in outcomes over time in favor of greater precision in analyzing outcomes for various subgroups of youth.

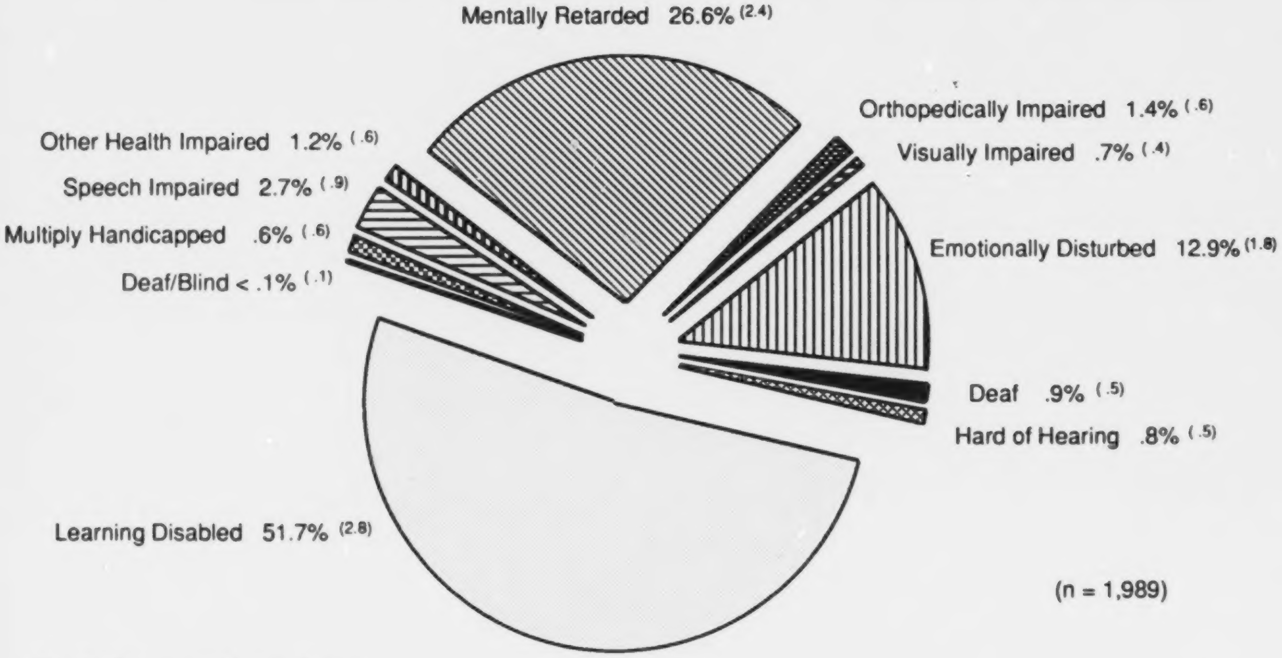
*** The subsample of youth analyzed here includes only those with data measured at both points in time. Hence, estimates of outcomes reported here for youth out of school less than 2 years may differ marginally from findings in other NLTS reports, which were based on the somewhat larger sample of all youth measured at the first time point. Table D1-1 in Appendix D confirms the representativeness of the sample of out-of-school youth used in this report by comparing their characteristics with (1) all youth with disabilities who were in secondary special education in the 1985-86 school year (whether or not they had left school by 1987) and (2) all youth with disabilities who had been in secondary school in 1985-86 and left by 1987 (whether or not they had data for both interview points, as necessary to be included in the subsample for this report). No significant differences were found between the subsample of youth included here and either comparison group except that, logically, out-of-school youth were older than the full sample of youth, which included those who still were secondary school students.

Disability Characteristics

As mentioned earlier, it is helpful to understand who young people with disabilities are in order to interpret the changes in their transition experiences from the time they were out of school less than 2 years until they were out of school 3 to 5 years. One important characteristic of youth is the nature of the disability for which they received special education services while in secondary school.

Figure 1-2 presents the special education disability categories represented by youth who were out of school 3 to 5 years in 1990. Youth were classified according to the primary disability identified by the schools or school districts the youth attended in the 1985-86 school year. More than half of youth (52%) had been classified as learning disabled, and more than one-fourth (27%) were identified as mentally retarded. Those with serious emotional disturbances constituted 13% of youth, while sensory, physical, health, or multiple impairments were fairly low-incidence disabilities.

Although the nature of a youth's primary disability is an important aspect of his or her profile of abilities and disabilities, categorical labels mask tremendous differences between youth in their actual abilities. Youth who share a disability classification may differ widely in what they can do and how well they can do it (Marder and Cox, 1991).



Standard errors are in parentheses.

FIGURE 1-2 PRIMARY DISABILITY CATEGORY OF YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS

The NLTS has measured two dimensions of youths' abilities through parent reports. The first dimension, basic self-care skills, is measured from parent reports of how well youth could perform the following tasks on their own, without help: dress themselves, feed themselves, and get around to places outside the home, such as a nearby park. Parents rated youths' abilities on a 4-point scale, ranging from "not at all well" (1 point) to "very well" (4 points). The sum of scores creates a scale ranging from 3 (all tasks performed not at all well) to 12 (all tasks performed very well).

A second dimension of ability involves applying basic mental functions, such as reading or adding, to everyday tasks. To measure this dimension of functional mental skills, parents reported how well youth could perform the following tasks on their own, without help: read common signs, tell time on a clock with hands, count change, and look up telephone numbers and use the phone. Parents rated youths' abilities on a similar 4-point scale. Scores were summed to create a scale ranging from 4 (all tasks performed not at all well) to 16 (all tasks performed very well).

Table 1-1 presents parent reports of youths' abilities on these two dimensions when youth had been out of secondary school less than 2 years. The vast majority of out-of-school youth with disabilities (93%) were reported as having high self-care skills (a scale score of 11 or 12); only 6% had medium abilities (scores of 7 to 10), and only 1% were reported as having low self-care skills (scores of 3 to 6). Functional mental skills were more problematic, with 60% of youth having high abilities (a scale score of 15 to 16), one-third having medium abilities (scores of 9 to 14), and 6% having low abilities (scores of 4 to 8).

However, skills varied widely among the disability categories. For example, high self-care scale scores were given to virtually all youth classified as learning disabled, to about three-fourths (76%) of those with visual impairments, and to fewer than half of youth with multiple handicaps, including those who were deaf/blind (46% and 47%). High functional mental skills scores were given to about two-thirds of youth who were hard of hearing, to about half of those who were deaf, and to one-third of those with multiple handicaps. Low functional mental skills scores were reported for about half of youth with multiple impairments or who were deaf/blind.

A final indicator of disability on Table 1-1 involves the percentage of youth who had measured IQ scores below 70, the point below which youth would be categorized as mentally retarded in many states. Overall, 30% of youth had IQ scores below 70. Of course, the rate was highest for youth classified as having mental retardation as their primary disability (89%). However, about half of youth with multiple impairments, including those who were deaf/blind, also had IQs below 70. Fractions of youth in all other categories of primary disability also had IQs below 70, ranging from 4% of those who were deaf to 12% of those with orthopedic impairments. Hence, their primary disability was not the only potential obstacle to successful transitions faced by many youth.

Table 1-1

VARIATIONS IN SELF-CARE SKILLS, FUNCTIONAL MENTAL SKILLS, AND MEASURED IQ AMONG OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

		Primary Disability Category										
Skill Characteristics	Total	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired	Other Health Impaired	Multiply Handi-capped	Deaf/ Blind
Percentage with parents reporting self-care skills are:												
High (11 or 12)	93.1	98.9	95.8	96.0	84.7	76.3	93.8	92.2	59.6	80.0	46.6	46.5
	(1.4)	(1.0)	(2.3)	(2.8)	(3.7)	(5.2)	(3.6)	(2.8)	(7.1)	(7.3)	(8.9)	(11.8)
Medium (7 to 10)	5.5	1.0	4.2	4.4	12.0	20.3	6.2	7.6	32.6	16.4	19.8	49.9
	(1.3)	(.9)	(2.3)	(2.8)	(3.4)	(4.9)	(3.6)	(2.7)	(6.8)	(6.8)	(7.1)	(11.8)
Low (3 to 6)	1.4	.1	.0	.0	3.3	3.4	.0	.3	7.7	3.6	33.6	3.6
	(.7)	(.3)	--	--	(1.8)	(2.2)	--	(.5)	(3.9)	(3.4)	(8.4)	(4.4)
n	1,892	331	210	132	268	175	146	248	164	83	103	32
Percentage with parents reporting functional mental skills are:												
High (15 or 16)	60.2	69.0	66.9	65.5	40.2	26.4	68.8	50.4	58.6	75.8	33.4	15.2
	(2.8)	(4.2)	(5.3)	(7.0)	(5.2)	(5.6)	(6.9)	(5.3)	(7.2)	(8.0)	(8.5)	(8.7)
Medium (9 to 14)	33.8	30.3	31.4	29.9	42.6	54.6	30.3	47.9	33.0	18.8	24.9	36.4
	(2.7)	(4.2)	(5.2)	(6.7)	(5.2)	(6.3)	(6.8)	(5.3)	(6.9)	(7.3)	(7.8)	(11.7)
Low (4 to 8)	6.0	.7	1.6	4.6	17.2	19.0	.8	1.8	8.4	5.4	41.7	48.4
	(.7)	(.8)	(1.4)	(3.1)	(4.0)	(5.0)	(.4)	(1.4)	(4.1)	(4.3)	(8.9)	(12.2)
n	1,841	323	209	127	258	165	145	237	161	84	102	30
Percentage with measured IQ below 70	30.3	8.7	6.9	7.6	89.1	11.6	8.8	4.2	12.9	6.9	51.5	51.0
	(2.5)	(2.5)	(2.8)	(3.7)	(3.1)	(3.8)	(4.1)	(2.0)	(4.7)	(4.5)	(8.3)	(11.5)
n	1,989	347	222	137	280	183	151	255	173	92	115	34

Demographic Characteristics

Other characteristics of youth, beyond their abilities and disabilities, also are known to influence transition outcomes. Considerable research has demonstrated the powerful influence of gender on employment, for example, both for youth in the general population (Greenberger and Steinberg, 1983) and for those with disabilities (using NLTS data—D'Amico, 1991; D'Amico and Marder, 1991). Similarly, the socioeconomic status of youth has been shown to relate to such outcomes as the incidence of arrest (Crowley, 1981).

Table 1-2 describes several demographic and household background characteristics of out-of-school youth with disabilities. Although youth out of school 3 to 5 years ranged in age from 18 to 27, a large majority (85%) were over age 21 and legally adults. Most youth (70%) were between 21 and 23 years old. We remind readers that this group of youth is representative of those who were in secondary special education in the 1985-86 school year and had left school by 1987; it is not a sample of all youth of a given age. So, for example, fewer than 1% of youth were 18 years old in 1990, largely because as 15-year-olds in 1987, most had not yet left secondary school and were not included in this group. As another example, those who were 22 years old in 1990 include only those who were in school in 1985-86 (at age 17); youth who had dropped out before 1985-86 are not included.

Out-of-school youth with disabilities were predominantly male (70%), unlike the general population of youth, which is virtually evenly divided by gender. Overall, 67% of out-of-school youth with disabilities were white, 24% were black, 6% were Hispanic, and 2% were of other ethnic backgrounds. The percentage of youth with disabilities who were black is higher than the corresponding percentage in the general population (12%; CES, 1987).

The majority (68%) of youth with disabilities who were out of secondary school came from households with annual incomes of less than $25,000 in 1986 . More than one-third of youth came from single-parent households, and 45% came from households whose heads had not graduated from high school. These figures suggest a much higher rate of poverty and other indicators of poor socioeconomic status than exist in the general population of youth (Marder and Cox, 1991). Both disability-related and socioeconomic factors can be expected to have an impact on the ability of youth to make successful transitions to adult independence.

Table 1-2

DEMOGRAPHIC CHARACTERISTICS OF YOUTH WITH DISABILITIES WHO WERE SPECIAL EDUCATION STUDENTS IN SECONDARY SCHOOLS IN 1985-86 AND OUT OF SCHOOL 3 TO 5 YEARS IN 1990

Youth Characteristics	Percentage		Standard Error
Age in 1990			
18 or 19	3.5		1.1
20	11.1		1.7
21	19.1		2.2
22	29.9		2.5
23	21.0		2.2
24	9.4		1.6
25	3.9		1.1
26 or 27	2.1		.8
n		1,989	
Youth were male	69.9		2.5
n		1,989	
Ethnic background			
White	66.8		2.6
Black	24.5		2.4
Hispanic	6.4		1.4
All other categories	2.3		.8
n		1,966	
Youth from single-parent households	38.8		2.8
n		1,878	
Youth from households with annual incomes of less than $25,000	67.7		2.8
n		1,749	
Youth from households whose head was not a high school graduate	44.6		2.8
n		1,871	

Overview of the Report

With this understanding of the characteristics of the youth with disabilities whose experiences we describe here, we turn to the methodological and substantive issues that are the central focus of our attention. Chapter 2 provides an overview of several of the methodological issues related to the data and analyses reported in this volume. Chapter 3 begins our look at transition outcomes with a focus on education after youth initially left secondary school. The extent to which youth had enrolled in postsecondary schools of various kinds and the frequency with which they had completed programs at those schools are discussed. Employment experiences are considered in Chapter 4. Trends in employment rates are described, as well as changes in the job characteristics and wages of employed youth. Chapter 5 examines residential settings of young people with disabilities and their movement toward more independent living arrangements. Social activities are the focus of Chapter 6, which looks at friendship and family networks, group memberships, and citizenship responsibilities.

Chapter 7 attempts to go beyond the emphasis on single dimensions of outcomes and give a more comprehensive, integrated view of the lives of young adults with disabilities. The analysis in Chapter 7 spans the domains discussed in earlier chapters by considering the overlaps or combinations of youths' outcomes. To what extent were youth acting independently in the employment *and* residential *and* social domains? In none of them? Finally, Chapter 8 synthesizes the findings presented and highlights the themes or consistent stories that emerge.

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2 ANALYTIC OVERVIEW: NLTS DESIGN AND LONGITUDINAL ANALYSIS APPROACH

by Mary Wagner

The NLTS is designed to address a number of descriptive and explanatory research questions for diverse audiences using multiple sources of data and a variety of analytic approaches reported in different formats. This chapter provides an overview of methodological issues pertinent specifically to the analyses of trends in postschool outcomes reported here. For more information on the design, sampling, or measurement of the NLTS more broadly, see Appendix A. In addition, Wagner, Newman, and Shaver (1989) describe in detail data collection procedures for the first wave of NLTS data, and Marder, Habina, and Prince (1992) describe procedures for the second wave. Sampling issues are summarized in Appendix A and presented in greater detail in Javitz and Wagner [1990 and 1993 (forthcoming)].

This chapter first describes the sources of NLTS data used in this report, including a discussion of differences in respondents between the first and second waves of data collection and the implications of those differences for interpreting the findings. Our approach to weighting the NLTS data to generalize to the population of out-of-school youth with disabilities is then described, including a discussion of estimating standard errors to account for the NLTS's stratified sample. Data used for comparisons of youth with disabilities and the general population of youth also are discussed. Finally, we describe the approach to longitudinal data analysis used here, addressing the complexities of age, cohort, and period effects that routinely complicate interpretation of longitudinal data.

Data Sources and Measurement Issues

NLTS Respondents

The analyses in this report are based on data for an initial subsample of 1,990 NLTS youth who satisfied four conditions: (1) they were enrolled in special education at a secondary school in the 1985-86 school year, (2) they had left secondary school by September 1987,[*] (3) their parent[**] or guardian completed an interview in the first wave of NLTS data collection

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[*] As shown in Chapter 3, a small number of dropouts (4%, n=26) who had left secondary school by 1987 had returned to and completed secondary school in the ensuing 3 years; therefore, they had been out of school somewhat less than 3 years when data were collected for the second time.

[**] For 8% of youth in the first-wave sample, a parent/guardian was not available. These generally were cases in which youth lived with another family member or were under the protection of the state and lived with nonfamily members. In such cases, the adult who was most knowledgeable about the youth was interviewed. Responses of these nonparents are included in the analyses, although interviews are referred to as "parent interviews."

(summer/fall of 1987), and (4) either the parent or youth completed a telephone interview or mail questionnaire in the second wave of NLTS data collection (fall/winter of 1990). These youth were weighted to represent all youth enrolled in special education in the 1985-86 school year who had left secondary school by September 1987 (see a later section of this chapter for weighting procedures).

Data related to the transition outcomes of out-of-school youth with disabilities come largely from telephone interviews. The first interviews were conducted entirely with parents because they included many family background questions for which parents were the most appropriate respondents. Further, the majority of youth were still in secondary school at that time and living with their families, so that parents were expected to be sufficiently familiar with their children's experiences to report them accurately.

By 1990, the majority of youth had left secondary school and many no longer were living with parents. For this reason, youth were considered the desired respondents for the 1990 interview regarding many aspects of their transition experiences. However, pretesting of interview items revealed that youth generally were not accurate respondents about issues related to receipt of services, items for which parents reported more accurately. Further, the nature or severity of many youths' disabilities prevented them from completing telephone interviews for themselves.

To maximize the accuracy of responses regarding services and yet satisfy the desire to have youth report on their own transition experiences if they were able, the 1990 interview was divided into two parts. The first part of the interview focused largely on experiences with services and was conducted with parents. Parents then were asked whether their child could respond accurately for him/herself by telephone to questions about employment and other outcomes. If parents indicated that the youth could respond for him/herself, the rest of the interview was conducted with the youth. If parents indicated that a hearing impairment precluded the youth from responding in a telephone interview, the interview was completed with the parent, but a brief mail questionnaire with similar items was sent to the youth. In other cases in which the youth could not respond for him/herself, interviews were completed with the parent, without a mail questionnaire supplement.

These interview procedures yield data for 1987 that are entirely parent reports of youths' experiences when they had been out of secondary school less than 2 years. Data regarding experiences 3 years later, when youth had been out of school between 3 and 5 years, come from a combination of parent and youth reports. For example, data regarding services received are entirely from parents; data regarding youths' satisfaction with jobs are entirely from youth, but only from those capable of responding for themselves; and data for a majority of outcomes are combined from parents and/or youth, the combination depending on who completed the second part of the interview.

Among the youth included in the analyses reported in this volume, 48% of the cases have data entirely from parents in 1990, and 52% rely on youth reports of outcomes. The proportion of the data that come from youth, however, is not the same for all groups of youth. Table 2-1 reveals that youth reports range from 71% of cases for youth with visual impairments and 69% of youth with other health impairments to fewer than one-third of youth who were deaf and virtually no youth who had multiple handicaps or who were deaf/blind. Hence, when we consider the few items that rely entirely on youth reports (e.g., satisfaction with jobs), the findings apply largely to less severely impaired youth, not to all youth with disabilities.

The difference in respondents between the first and second interviews raises the concern that some part of the changes in outcomes we measure could result from systematic differences in the ways youth and their parents reported the youths' experiences.

Table 2-1

PERCENTAGE OF 1990 INTERVIEWS ABOUT YOUTH WITH DISABILITIES WHO WERE OUT OF SCHOOL 3 TO 5 YEARS THAT WERE CONDUCTED WITH YOUTH*

Youth Characteristics	Percentage of Interviews Conducted with Youth*
Total sample (n = 1,989)	52.1
Primary disability category	
Learning disabled	61.2
Emotionally disturbed	45.4
Speech impaired	64.6
Mentally retarded	37.2
Visually impaired	71.3
Hard of hearing	59.4
Deaf	31.3
Orthopedically impaired	56.6
Other health impaired	68.6
Multiply handicapped	1.3
Deaf/blind	.0

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* Only the second part of the interview was conducted with youth; the initial part of the interview was conducted with parents in all cases. Percentages are unweighted.

For example, if youth tended systematically to report more often that they were employed than parents reported the youth were employed (a phenomenon documented for the general population of youth; Freeman and Medoff, 1982), the 1990 employment rate (when youth responded for some cases) would be higher than the 1987 employment rate (when only parents responded) simply because of the difference in respondents, irrespective of whether employment rates actually rose. Further, the groups of youth with higher proportions of youth respondents relative to parent respondents might record higher employment rates, irrespective of actual differences between groups.

To explore this potential bias due to differences in youths' responses relative to parents', we selected a random sample of cases and asked both parents and youth a small number of identical questions in the telephone interviews. In addition, deaf youth were mailed questionnaires that included some items that also had been asked of their parents in earlier telephone interviews. These sets of duplicate items permit us to examine whether youth reported systematically different experiences than their parents reported about them, suggesting bias in the 1990 data relative to 1987.

Table 2-2 reveals a high level of agreement between parents and youth for most items. For example, more than 90% of parents and youth gave the same responses to questions regarding youths' enrollment in postsecondary schools of different kinds. Regarding employment, 88% of respondents were in agreement about whether youth were working, and 84% agreed on the level of wages youth earned. Agreement levels were somewhat lower regarding whether youth who were not employed were looking for work (72%), the grades earned by youth attending postsecondary schools (75%), and whether youth had belonged to social groups in the preceding year (72%).

One would not expect complete agreement between parents and youth because there was a time lag of as much as 2 months in some cases between parent and youth reports (e.g., parents responded to a telephone interview and their deaf child completed a written questionnaire some weeks later). During this lag time, an actual change in status could have occurred, so that parents and youth could accurately give different responses. Thus, agreement levels between 70% and 95% are within the expected range.

More importantly, there is little evidence in Table 2-2 that youth responded differently in a systematic way when they did disagree with parents. For example, youth were no more likely to report that they were working when parents had reported they were not than vice versa (7% vs. 5%). Similarly, 14% of youth reported that they earned higher grades in postsecondary schools than their parents reported, but 11% reported lower grades than their parents did. Only in the case of group memberships were youths' responses weighted more heavily in one direction; when youth disagreed with parents on whether they were members of a group, they were almost twice as likely to report they were members when parents said they were not than vice versa.

Table 2-2

COMPARISON OF PARENT AND YOUTH RESPONSES

Outcomes	Percentage* of Cases Responding: In Agreement	Youth Yes,** Parent No	Youth No, Parent Yes	n
Youth lived independently	90.6	6.6	2.1	287
Youth had a paid job	88.4	6.8	4.7	803
Wage category of employed youth (less than minimum, minimum to $5.00 per hour, or more than $5.00 per hour)	83.8	7.9	8.3	243
In the past year, youth went to:				
A postsecondary vocational school	90.9	5.8	3.2	684
A 2-year college	90.9	4.7	4.4	683
A 4-year college	95.8	1.0	3.2	683
Out-of-school youth belonged to groups	70.2	19.6	10.2	275

The absence of a high level of disagreement and of disagreement systematically in a particular direction suggests that there is little systematic bias in 1990 resulting from differences in respondents relative to 1987. It further supports the decision to combine responses from parents and youth rather than reporting them separately.

Weighting the NLTS Data

In describing trends in postschool outcomes, we generally report percentages of youth with a particular status or experience (e.g., the percentage living independently, the percentage with children). Percentages are weighted to represent youth nationally; they are not percentages of the sample, but estimates for the population of youth with disabilities as a whole and for youth in each of 11 federal special education disability categories. Youth were weighted to represent all youth enrolled in special education in the 1985-86 school year who had left secondary school by September 1987.

Sample weighting involved deriving weights for all youth for whom data were available in 1987 from parents or school records, as described in Appendix A. Wave 1 weights provide the best estimate of the characteristics of the whole population of youth with disabilities who had been secondary school special education students in the 1985-86 school year. However, this report includes only a subsample of those youth—youth who had been students in the 1985-86 school year but no longer were in secondary school by September 1987 and had data from both waves of the NLTS. New weights were required for this subsample so that it would represent the larger group to which it was intended to generalize.

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* Percentages are unweighted.

** For continuous variables, the percentages in column 2 indicate youth whose answers were higher than parent's and those in column 3 are youth whose answers were lower than parent's.

To reweight the subsample of 1,990 youth used in the trend analyses reported here, we first identified the group of youth who had been enrolled in special education in the 1985-86 school year, who had left secondary school by September 1987, and for whom we had enough data to have given them weights in the wave 1 analysis. This group of 3,046 youth, weighted with their wave 1 weights, provided the best picture available of the characteristics of the population of youth to which the subsample of 1,990 youth should generalize.

We then used the group of 3,046 youth and their wave 1 weights to calculate the following characteristics of the population as of 1987:

- Age—the primary categories were 15 to 17 years, individual years of age from 18 to 22, and a combined category of 23 and above.
- Ethnic background—grouped as black, white, Hispanic, and a combined category for Native American/Alaskan native, Asian/Pacific Islander, and "other." In addition, there was a category for "don't know" or refusals, and a category for missing data.
- Secondary school completion—identified as graduated, aged out, and a combined category of dropped out, suspended, or expelled. In addition there was a category for "don't know" or "plans to return to school."
- Gender.
- Annual household income—grouped as under $12,000; $12,000 to $19,999; $20,000 to $24,999; under $25,000 but otherwise unspecified; $25,000 to $37,999; $38,000 to $50,000; and over $50,000. Those with incomes of $25,000 or over but otherwise unspecified were grouped with those with household incomes between $25,000 and $37,999. In addition, there was a category for those with missing information and a category for those who responded "don't know," refused to answer, or indicated that the youth was institutionalized.

The third step was to calculate weights for the 1,990 youth so that they matched the demographic distributions of the 3,046 youth on the characteristics listed above. The weighting was accomplished using Deming's algorithm, which iteratively modified the Wave 1 weights for the 1,990 youth until they generated demographic distributions that were very similar to those of the 3,046 youth. Each disability class was weighted separately; generally, the distributions of the smaller subsample matched the larger sample within a fraction of 1%.

(Only for the deaf/blind category, for which the sample size was very small, did the distributions fail to match within 1%, differing by no more than 2%.)

Estimating Standard Errors

Because the NLTS involves a sample of youth with disabilities from which estimates are made for the broader population of youth, it is important to determine the statistical variability of the population estimates—i.e., how precisely are we estimating from our sample the characteristics of the population to which the NLTS generalizes? If, for example, weighted NLTS data indicate that 70% of the population of youth with disabilities had a job in 1987, we need to know how close that estimate is to the true level of employment that would be measured for the whole population of youth. A standard error indicates the precision of the estimates; standard errors are reported in all data tables in NLTS documents to permit readers to understand the range of variability of the estimates provided.

To elaborate, the standard error of the estimate of 70% employment used as an example above might be 3%. In this example, we would be confident that, 95 times out of 100, the actual percentage of the national population of youth with disabilities who were employed in 1987 would be 70%, plus or minus 1.96 times 3%, or between 64% and 76%. The width of this interval reflects the fact that the 70% estimate is based on only a sample of youth, and the "luck of the draw" could result in our selecting proportionately somewhat more or fewer youth with jobs than in the national population.

Standard errors for the NLTS were computed using a procedure that differs somewhat from standard calculation routines. Standard routines assume a simple random sample, whereas the NLTS has a stratified cluster sample, which increases the standard errors of estimates compared with a simple random sample. In addition, the reweighting in wave 2 introduced a small amount of additional variability.

Pseudo-replication is widely accepted as a variance estimation technique for databases that have the sample characteristics of the NLTS. However, it is not cost-effective for estimating the standard errors of the thousands of variables and subpopulations tabulated in the numerous NLTS reports. Therefore, pseudo-replication was conducted on a limited number of variables to calibrate a cost-effective approximation formula. The procedures used in this calibration are described in Appendix A. These procedures generated the standard errors reported for percentages of youth with particular experiences at a given point in time (e.g., the percentage of youth employed when out of school less than 2 years, the percentage of youth living independently when out of school 3 to 5 years).

In addition to these single-point-in-time estimates, in this report we also present percentages that are the difference or change between two time points (e.g., the difference in the percentage of youth employed when out of school less than 2 years and out of school 3 to 5 years). These estimates of differences also have variability and, therefore, associated standard errors. The standard error for differences in percentages was conservatively estimated as:

$$[(SE_{87})^2 + (SE_{90})^2]^{1/2}.$$

This estimate is conservative because many (if not all) of the youth who were used in calculating the first percentage also were used in calculating the second percentage, and there is a positive correlation between their responses.

Comparisons with the General Population of Youth

When possible, we compare NLTS findings regarding trends in postschool outcomes with statistics for two groups of youth drawn from the general population. These comparison groups have been constructed using data from the National Longitudinal Survey of Youth (NLSY; CHRR, 1988). The first comparison group is youth from the general population as a whole who had been out of secondary school the same length of time as youth in the NLTS. A second comparison group also is used, however, because we have learned that youth with disabilities differ from other youth in ways other than the presence of a disability (Marder and Cox, 1991). Therefore, a second comparison group has been constructed from the NLSY that reweights youth in the general population so that they have the same distribution of gender, head of household education and ethnic background as youth with disabilities. With this second comparison group, we can better identify the extent to which differences between youth with disabilities and other youth are attributable to disability rather than to differences in the selected demographic characteristics. (See Appendix A for further details regarding the construction of NLSY comparison groups and the variables drawn from that database.)

NLSY data are based on youth reports of their own experiences. Although NLTS data do not reveal systematic differences between youth and parent reports for youth with disabilities, it is unknown whether NLSY data obtained only from youth differ systematically from NLTS parents or parent/youth reports because of respondent differences. Also, NLSY data for youth who were out of secondary school less than 2 years were reported in 1979 through 1983; data for youth out of school 3 to 5 years are for those same youth from 1982 through 1985. NLTS data, on the other hand, are from 1987 and 1990. The difference in years covered by the data also may contribute to an unknown extent to differences in findings for youth with disabilities and youth in general. To strengthen our basis of comparison, therefore, we draw on other databases for the general population of youth where possible.

Analysis Issues and Strategy

Interpreting Longitudinal Trends in Outcomes

To illuminate trends in postschool outcomes, we compare outcomes for youth at two points in time—when, as a group, they had been out of secondary school less than 2 years, and 3 years later, when they had been out of school 3 to 5 years. Underlying the comparison is the assumption that differences observed between the two time periods—i.e., whether outcomes are trending upward or downward, or remaining largely unchanged—are due to the passage of time. Aging and the accumulation of experience in adult roles and responsibilities are assumed to account for the trends we report. In longitudinal research, these are commonly referred to as "age effects."

But changes over time are influenced by other factors as well. Two other potential effects on trends are known as "cohort effects" and "period effects." Each of these is discussed below. Disentangling age, period, and cohort effects is inherently difficult and is not completely feasible when only two measurement points are involved. Nonetheless, we have attempted to gauge the extent of the role each of these plays in the trends we have reported.

Examining Cohort Effects

The issue of cohort effects arises when changes over time are measured for different individuals. Cohort effects are minimized in the NLTS by the fact that we have followed the same individuals through time and we include in the analyses reported here only youth with interviews at both time points. Nonetheless, the samples in the two years are not identical. For example, a youth with a telephone interview in 1987 would be included in most analyses of outcomes in 1987. However, if that youth had data for 1990 only from the brief mail questionnaire sent to respondents without telephones, he/she would be excluded from some analyses of 1990 outcomes because the mail questionnaire had only a subset of items from the much longer telephone interview. The magnitude of the difference in the samples varies for different outcomes. For example, the samples on which employment rates were estimated included 1,941 youth in 1987 and 1,815 in 1990.

The most straightforward way to eliminate cohort effects is to include exactly the same youth at both time points in each tabulation. However, this strategy would reduce the sample size, thereby reducing the precision of estimates of outcomes. More importantly, the youth for whom all values on all variables were present for both time points might differ from the larger sample of youth in ways that would bias results.

In assessing the tradeoffs involved in choosing an analytic approach, we selected example outcomes for which the samples at the two time points differed most to investigate the size of potential cohort effects. Hourly wages and occupations were selected as variables because substantially different groups of youth were employed at the two time points, increasing the potential impact of cohort effects. Restricting analyses to youth employed at *both* time points and comparing results with the trend observed for all youth employed at a given time illuminates the degree of cohort effects. These comparative analyses are reported in Chapter 4 and suggest that the trends that we observe for youth as a whole are virtually the same as those noted for the subset of youth employed at both points in time. Hence, cohort effects appear to be small, supporting our decision to use the largest available sample for each time point, despite differences in composition.

Examining Period Effects

"Period effects" occur when changes over time can be attributed in part to differences in the time periods of measurement. Using employment outcomes again as an example, changes in the employment experiences of youth with disabilities may well have been influenced by changes in the economy from 1987, a period of generally high employment nationwide, to late 1990, when the nation entered a recession. The ease of finding a job and increases in wages are highly dependent on demand characteristics of the economy, and the employment outcomes of persons lower down in the hiring queue (e.g., members of minority groups, youth) are known to be especially affected (e.g., Freeman and Wise, 1982). Therefore, if period effects are strong, the trend in employment outcomes we observe would be understated because of the economic recession in 1990.

To address this issue, exploratory analyses reported in Figure 2-1 incorporated data on the employment status of youth from a third time period—1989—obtained retrospectively in the 1990 interview. This trend shows that the 1990 employment rate continued a trend observed from 1987 to 1989. Of course, this evidence cannot be taken to mean that no period effects were present; we still cannot know what the 1990 employment rate would have been if a more favorable economic climate had prevailed. Nonetheless, employment rates show no downswing in 1990 from the trajectory apparent from 1987 to 1989, when no recession was in effect.

These explorations of the potential influence of cohort and period effects fail to challenge our assumption that the trends we report result largely from the change in the age and development of youth as time passed after leaving high school. Further, we are not dissuaded from inferring that similar trends would be observed in other years and for other samples of youth with disabilities less than 2 years and 3 to 5 years after leaving secondary school.

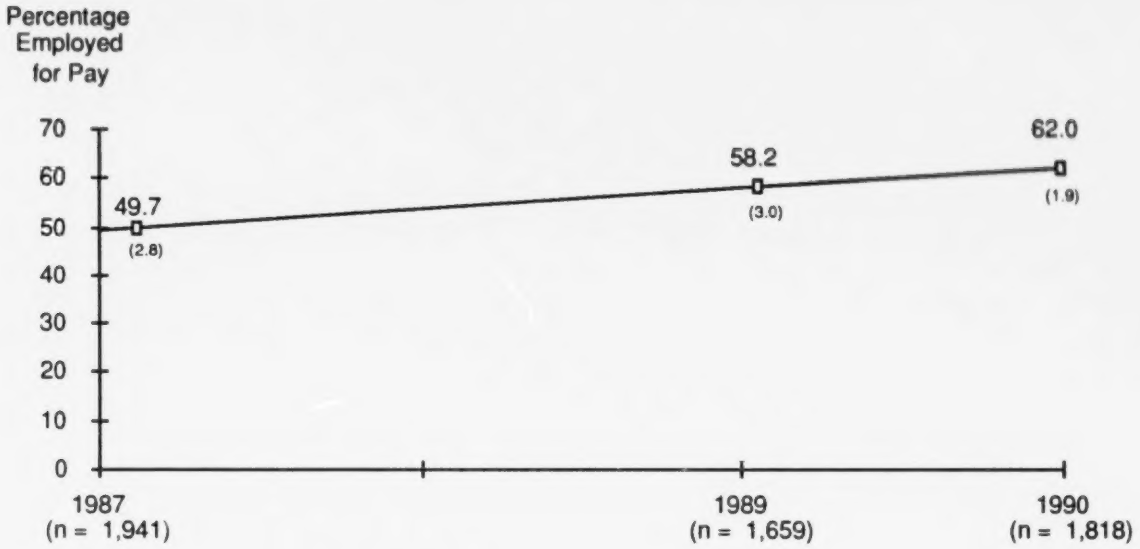

FIGURE 2-1 TREND IN EMPLOYMENT RATES OF YOUTH WITH DISABILITIES THROUGH THREE TIME POINTS

Describing Variations in Outcomes

As mentioned previously in this chapter, in describing trends in postschool outcomes, we generally report percentages of youth with a particular status or experience at two points in time (e.g., the percentage living independently when out of school less than 2 years and again 3 years later). Percentages are weighted to represent youth nationally; they are not percentages of the sample, but estimates for the population of youth with disabilities as a whole and for youth in each of the 11 federal special education disability categories in use in 1985. The actual sample sizes on which the population estimates are based are included in all data tables and figures (indicated as "n"). Standard errors, calculated as described in an earlier section of this chapter, are included in all tables and figures and indicate the precision of the population estimates.

All outcomes are reported for youth by their federal special education disability category, in an acknowledgment of the important influence disability can have on transition experiences (definitions of categories are included in Appendix C). We also examine differences between youth based on their gender, ethnicity, and mode of secondary school completion (graduating, dropping out, or "aging out").* These youth characteristics were selected because transition experiences have been shown to differ markedly for youth who differ in these characteristics.

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* Regarding school completion status, youth are categorized according to their status at the time outcomes are reported. A small number of youth who were dropouts in 1987 became graduates by 1990 (see Chapter 3); they are included in each category for each time period.

It is important to note, however, that gender, ethnic background, and secondary school completion are not independent of disability category. These background characteristics are distributed differently for youth with different kinds of disabilities, as demonstrated in Table 2-3. For example, males were 76% of youth with learning disabilities but only 46% of youth with orthopedic impairments. Hence, when we present outcomes for males and females, the difference between them is partly a function of gender and partly a result of the fact that males were more heavily dominated by youth with learning disabilities than were females. Similarly, dropouts were 56% of youth with emotional disturbances and only 13% of those with visual impairments. Thus, differences in outcomes for graduates and dropouts result partly from their differences in secondary school completion and partly from the fact that dropouts were more heavily dominated by youth with learning disabilities and emotional disturbances than were graduates.

In an effort to disentangle the confounding of disability with gender, ethnic background, and school-leaving status, many of our analyses examine differences in outcomes by these characteristics for youth as a whole and, to the extent the samples are large enough to do so, for youth in each disability category. Hence, for example, we refer to employment rates for males and females as a whole as well as employment rates for males and females with learning disabilities. Analyses within disability category reflect variations in outcomes due to gender or other characteristics, irrespective of disability. With this background information on the sample, the data, and the analytic approach in mind, we turn now to an investigation in trends in postschool outcomes for youth with disabilities.

Table 2-3

VARIATIONS IN GENDER, ETHNIC BACKGROUND, AND SCHOOL COMPLETION STATUS AMONG OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

		Primary Disability Category										
Youth Characteristics	Total	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired	Other Health Impaired	Multiply Handi-capped	Deaf/ Blind
Percentage of youth who were male	69.9	76.5	73.9	65.3	59.2	53.9	47.2	57.2	46.4	50.7	64.7	45.5
	(2.5)	(3.8)	(4.8)	(6.6)	(4.9)	(6.0)	(7.3)	(5.0)	(6.9)	(8.9)	(7.9)	(11.5)
n	1,989	347	222	137	280	183	151	255	173	92	115	34
Percentage of youth who were:												
White	66.8	71.0	63.0	54.2	62.2	62.2	65.6	66.8	63.0	59.3	70.3	62.3
	(2.6)	(4.1)	(5.3)	(6.9)	(4.9)	(5.8)	(7.0)	(4.8)	(6.8)	(7.3)	(7.6)	(11.2)
Black	24.5	19.3	28.0	29.0	33.5	28.9	19.7	21.5	16.5	20.9	17.7	33.4
	(2.4)	(3.5)	(4.9)	(6.3)	(4.7)	(5.5)	(5.9)	(4.2)	(5.2)	(7.3)	(6.3)	(10.9)
Hispanic	6.4	7.7	5.3	12.6	2.5	6.9	8.1	8.8	17.4	17.5	11.4	3.5
	(1.4)	(2.4)	(2.5)	(4.6)	(1.6)	(3.0)	(4.0)	(2.9)	(5.3)	(6.8)	(5.3)	(4.2)
All others	2.3	2.0	3.8	4.1	1.8	2.0	6.6	3.0	3.1	2.2	.5	.8
	(.8)	(1.2)	(2.1)	(2.8)	(1.3)	(1.7)	(3.7)	(1.7)	(2.4)	(2.7)	(1.2)	(2.1)
n	1,966	341	220	136	278	180	149	254	171	90	113	34
Percentage of youth who in 1990 were:												
High school graduates	57.6	63.6	40.0	58.7	51.8	74.3	77.4	74.3	76.4	72.1	34.0	51.9
	(2.7)	(4.3)	(3.7)	(6.8)	(5.0)	(5.2)	(6.1)	(4.4)	(6.0)	(7.9)	(8.1)	(11.5)
Dropouts	34.9	33.6	56.3	33.6	32.0	12.6	13.1	8.3	16.1	19.7	13.9	2.0
	(2.6)	(4.2)	(5.4)	(6.6)	(4.7)	(4.0)	(4.9)	(2.8)	(5.2)	(7.0)	(5.9)	(3.3)
Ageouts	7.5	2.8	3.7	7.6	16.2	13.0	9.6	17.4	7.5	8.2	52.1	46.0
	(1.5)	(1.5)	(2.1)	(3.7)	(3.7)	(4.0)	(4.3)	(3.8)	(3.7)	(4.9)	(8.6)	(11.5)
n	1,978	347	221	136	279	151	151	254	172	92	110	34

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3 EDUCATION AFTER SECONDARY SCHOOL

by Camille Marder

The majority of Americans believe that education is central to achieving "the American Dream" (Chicago Sun Times, 1987). Most American high school seniors expect to attend at least some college, and almost half of youth expect to complete at least a bachelor's degree (Gardner, 1987).

These beliefs and expectations are well grounded in the reality of modern American life. A good education is becoming increasingly important for simply getting and keeping a job. In recent years, the unemployment rate of adult dropouts was almost twice that of high school graduates, whose rate, in turn, was more than twice that of college graduates (Mincer, 1989). Among those who have jobs, the average wage gap between people with various levels of education has grown and promises to continue to do so. For example, in the mid-1980s, high school graduates earned an average of 14% more than dropouts, and college graduates earned almost 60% more than high school graduates (Murphy and Welch, 1989).

Schooling may be even more important for people with disabilities than for others. In the employment arena, educational credentials attest to skills, knowledge, and a work ethic that can help focus an employer on a person's abilities rather than disabilities. Past research has consistently reported higher rates of employment for high school graduates with disabilities than for their peers who dropped out (e.g., Hasazi, Gordon, and Roe, 1985; Zigmond and Thornton, 1985; Edgar, 1987; Affleck, Edgar, Levine, and Kortering, 1990). In addition to higher employment rates shortly after high school, the NLTS also has found that employed graduates with disabilities were more likely than employed dropouts to earn higher wages and to work in higher-prestige jobs (D'Amico, 1991).

The benefits of attending school for youth with disabilities are not limited to economic effects. Secondary and postsecondary schools can provide support services, such as counseling and job placement services, and important opportunities for social interaction.

Yet, by definition, youth in special education have disabilities that make aspects of the educational process more difficult for them than for other youth. Thus, it is not surprising that past research has found the educational attainment of youth with disabilities considerably lower than that of youth in general (e.g., Affleck et al., 1990). Compared with their peers in the general population, the NLTS has found that youth with disabilities were less likely to graduate from secondary school, to obtain General Education Development certificates, or to enroll in college in the year or two after secondary school (Marder and D'Amico, 1992).

But these comparisons may not tell the whole story. Levels of educational attainment are not cast in stone. Although most youth in the general population attend secondary school continuously, graduate, and then attend postsecondary school immediately after high school (e.g., Sebring, Campbell, Glusberg, Spencer, and Singleton, 1987; Eagle and Schmitt, 1990), it is possible that youth with disabilities follow a different timetable, returning to secondary school or attending postsecondary school after stopping out for a time.

Other than the fact that few pursue postsecondary studies in the years immediately after secondary school, little is known about the postsecondary school experiences of youth with disabilities. Butler-Nalin and Wagner (1991) used NLTS data to examine several aspects of postsecondary schooling. However, that work refers to students with disabilities who had been out of secondary school less than 2 years (indeed, many had been out of school only a few months); thus, it captures only the beginning of postsecondary school experiences for most students.

In this chapter, we go a step farther and examine educational experiences of youth with disabilities who had been out of secondary school between 3 and 5 years. We consider trends in dropouts' return to secondary programs and in obtaining high school diplomas or equivalency certificates. We then examine trends in attending postsecondary schools, including postsecondary vocational schools and 2-year and 4-year colleges. In addition, we investigate the intensity of course taking, types of programs, and grades of postsecondary students, and rates of degree completion.

Dropping Out of High School: An Irrevocable Decision for Youth with Disabilities?

Despite the benefits of having a high school diploma, many youth with disabilities leave school by dropping out. Among youth with disabilities who exited secondary school in a 2-year period, 37% dropped out (Table 3-1). In contrast, dropouts made up about 21% of exiters among youth in the general population (Marder and D'Amico, 1992).

Dropping out was particularly common among youth classified as seriously emotionally disturbed; more than half (59%) of exiters with this classification left school by dropping out. Dropping out also was common among youth classified as learning disabled (36%), speech impaired (34%), mentally retarded (35%), and other health impaired (24%). In contrast, among exiters with other classifications, no more than 18% had dropped out.

Dropout rates did not differ significantly by gender or ethnic background, but academic performance in the last year of high school was strongly related to dropping out. About 20% of exiters who had passed all their classes in their last year of high school had dropped out. In contrast, the percentage of dropouts among exiters who had failed one or more classes was more than three times as high—68% (p<.001).

Table 3-1

PERCENTAGE OF DROPOUTS* AMONG 1985-87 SECONDARY SCHOOL EXITERS WITH DISABILITIES, BY YOUTH CHARACTERISTICS

	Percentage of Secondary School Exiters That Dropped Out		
	Percentage	Standard Error	n
All youth	37.1	2.8	1,930
Disability category			
Learning disabled	35.6	4.3	340
Emotionally disturbed	58.6	5.5	216
Speech impaired	34.4	6.6	136
Mentally retarded	34.9	4.8	273
Visually impaired	15.3	4.4	175
Hard of hearing	14.4	5.2	147
Deaf	10.0	3.0	244
Orthopedically impaired	18.1	5.5	168
Other health impaired	23.8	7.6	89
Multiply handicapped	14.2	6.0	108
Deaf/blind	6.8	5.8	34
Gender			
Male	38.7	3.2	1,211
Female	33.6	5.0	719
Ethnic Background			
White	36.4	3.2	1,307
Black	39.5	6.2	396
Hispanic	42.0	11.7	144
In last year of secondary school:			
Failed no classes	20.3	3.2	946
Failed 1 or more classes	68.2	6.9	201

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* Dropouts are youth who parents and/or schools reported had dropped out or were permanently suspended or expelled from secondary school as of September 1, 1987.

About equal percentages of dropouts with disabilities left school during the 9th, 10th, and 11th grades (27%, 20%, 23%, respectively; Figure 3-1). The grade levels at which youth with disabilities left school appear to reflect a pattern of leaving school on reaching the minimum legal age to do so. Many youth with disabilities were about 1 year older than their nondisabled grademates and thus reached the legal age to leave school in the 9th grade.

Theoretically, dropping out of secondary school is not an irrevocable decision; young people may still obtain a high school diploma by reentering a regular or alternative secondary school, or they may take an examination to obtain a General Education Development (GED) certificate. Among dropouts in the general population, resuming secondary education and/or obtaining a GED certificate is quite common (Sebring et al., 1987).

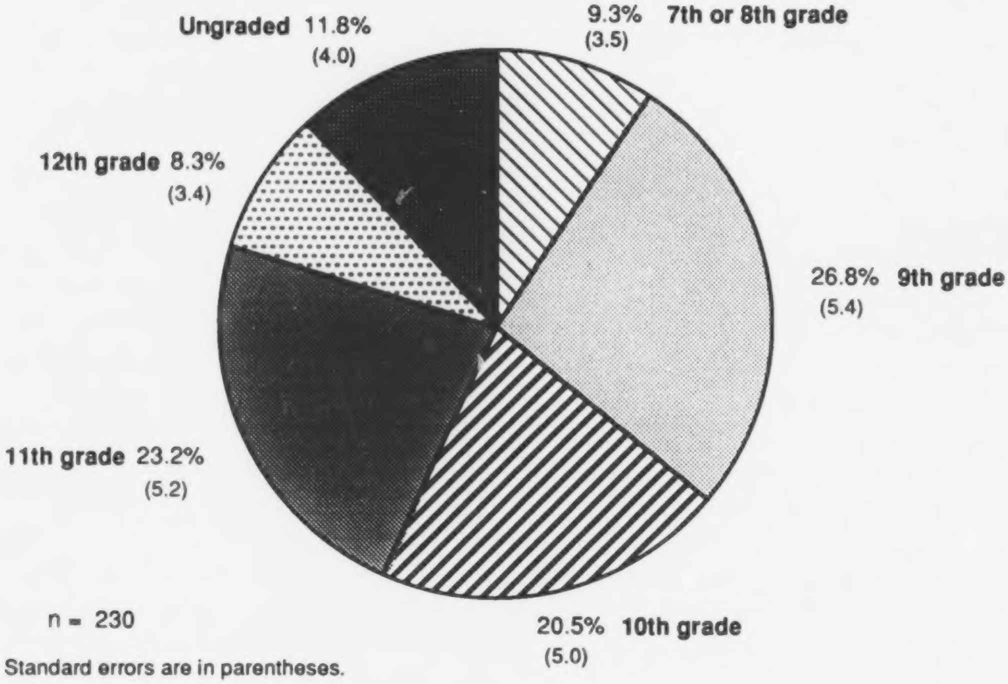

FIGURE 3-1 GRADE LEVEL AT WHICH 1985-87 DROPOUTS WITH DISABILITIES LEFT SCHOOL

But did dropouts* with disabilities return to secondary programs and obtain diplomas or certificates as frequently as dropouts in general? Did those who resumed their education do so shortly after leaving secondary school, or did they tend to stop out for a while and then pursue their education? And how many actually obtained diplomas or equivalency certificates? We investigate these questions by examining how many youth who dropped out of school in the 1985-86 or 1986-87 school year had attended secondary/equivalency programs during the year preceding the summer of 1987. We then examine how many of these same youth had attended such programs as of 3 years later, and whether they had completed the programs at that time.

When dropouts with disabilities had been out of school less than 2 years, only about 13% were reported to have attended secondary/equivalency programs in the preceding year (Figure 3-2). Three years later, more than one-fourth of these youth (27%) had attended such programs since leaving high school, a significant increase ($p<.01$).** However, even this higher rate of attendance 3 to 5 years after dropping out is considerably lower than the approximately 60% of dropouts in the general population who had reenrolled in secondary programs or had enrolled in equivalency programs within 4 years of leaving secondary school (Sebring et al., 1987).

We thought it likely that attendance rates might differ for youth with different types of disabilities. Because of the small number of dropouts in some disability categories, we were able to examine attendance patterns separately for youth classified as learning disabled, seriously emotionally disturbed, or mentally retarded. There were no significant differences in either rates of attendance or increases in attendance rates among youth in these categories. Similarly, there were no differences in patterns by gender or ethnic background.

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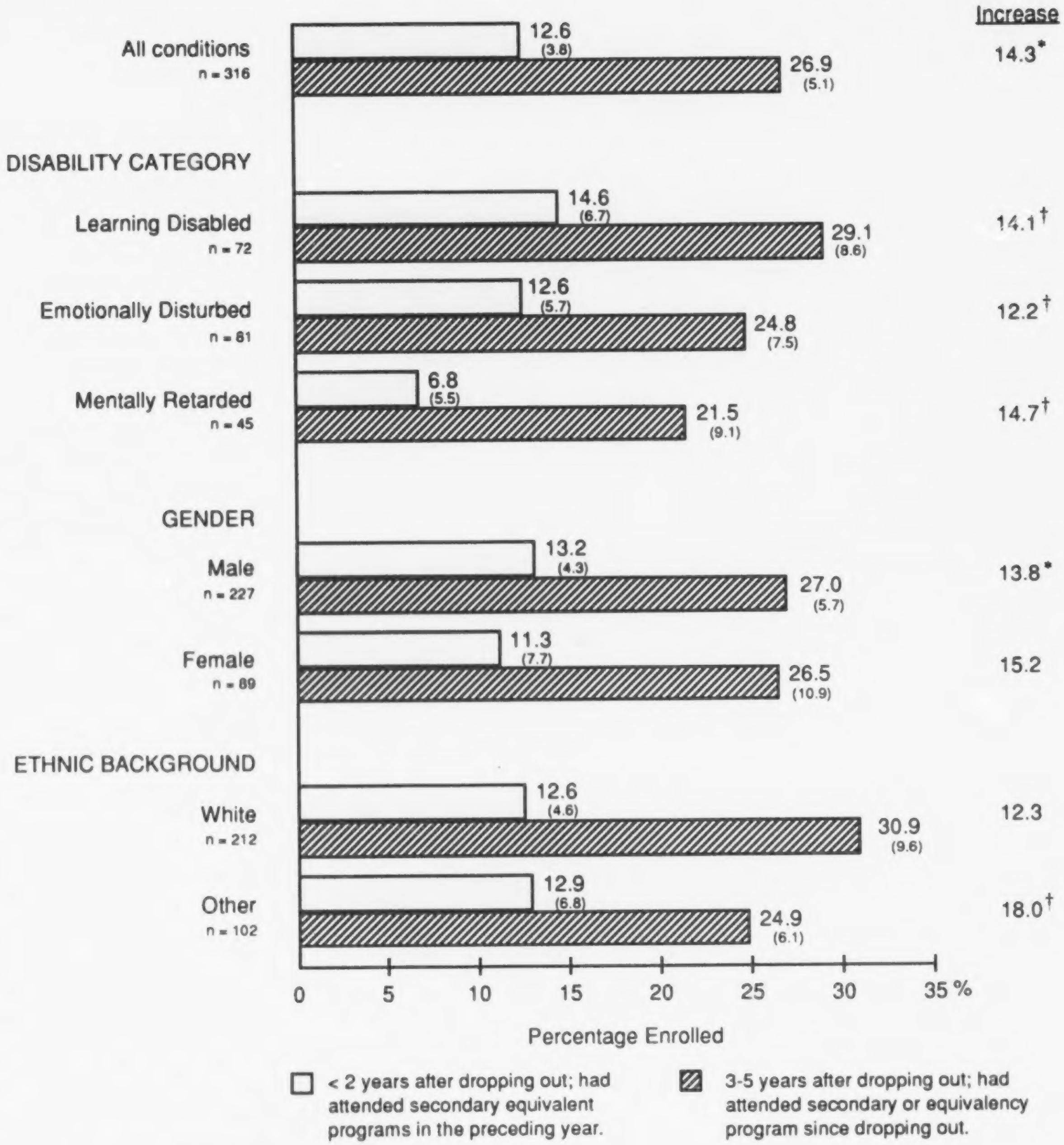
* In this chapter, dropouts are youth whose parents or schools reported that they had dropped out or were permanently suspended or expelled from secondary school as of September 1, 1987.

** Note that the 1987 interview asked parents whether youth had attended secondary programs in the preceding year. About half of youth had been out of school less than 1 year; thus, the period covered by the question included their entire period after leaving secondary school. However, the other half of youth had been out of school between 1 and 2 years, making it possible for them to have attended equivalency programs after leaving high school but before the time period covered in the interview. In contrast, the 1990 interview asked about enrollment during the entire period since leaving high school. Therefore, although most of the increase in attendance rates from one interview to the next reflects attendance after the first interview, a small percentage of the increase may reflect attendance immediately after dropping out of secondary school, before the first interview.



Standard errors are in parentheses.

† $p < .10$, * $p < .05$

Dropouts are youth whose parents and/or schools reported that they had dropped out or were permanently suspended from school as of September 1, 1987.

FIGURE 3-2 ENROLLMENT OF DROPOUTS WITH DISABILITIES IN SECONDARY EDUCATION OR EQUIVALENT PROGRAMS

Obtaining a diploma or equivalency certificate after dropping out of secondary school was uncommon among youth with disabilities. As shown in Figure 3-3, only 3% of youth with disabilities as a whole had obtained such degrees 3 to 5 years after dropping out of secondary school.* The likelihood of obtaining a diploma or certificate after dropping out did not differ significantly by disability classification (Figure 3-3) or by gender or ethnic background (Figure 3-4).

Three to 5 years after dropping out of school, a small percentage (2%) of youth with disabilities still were enrolled in secondary programs Some of these youth might still complete programs and obtain diplomas or certificates. Nevertheless, even if all of them were to do so, about 30% of out-of-school youth with disabilities would not have secondary diplomas of any kind—almost double the percentage of youth in the general population measured by the NLSY (17%, $p<.001$), and almost 1-1/2 times the rate of the general population after adjustments for differences in gender, ethnic background, and head of household's education (22%, $p<.001$).

One must be somewhat cautious in interpreting these differences, however. In recent years, the percentage of youth in the general population taking GED exams and the percentage of exam takers passing them have declined. Between 1980 and 1989, the number of test takers in the United States and Canada fell by 15% (*Education Week*, 1990). Not all of the reasons are known; however, a great deal of the decline occurred in 1988, when essay questions and questions measuring higher-order thinking skills were added to the exam. Because data for youth with disabilities were gathered in 1990 and data from the NLSY are from 1986 or before, a minor part of the difference between the two groups may be due to historical changes rather than to differences between youth with disabilities and the general population.

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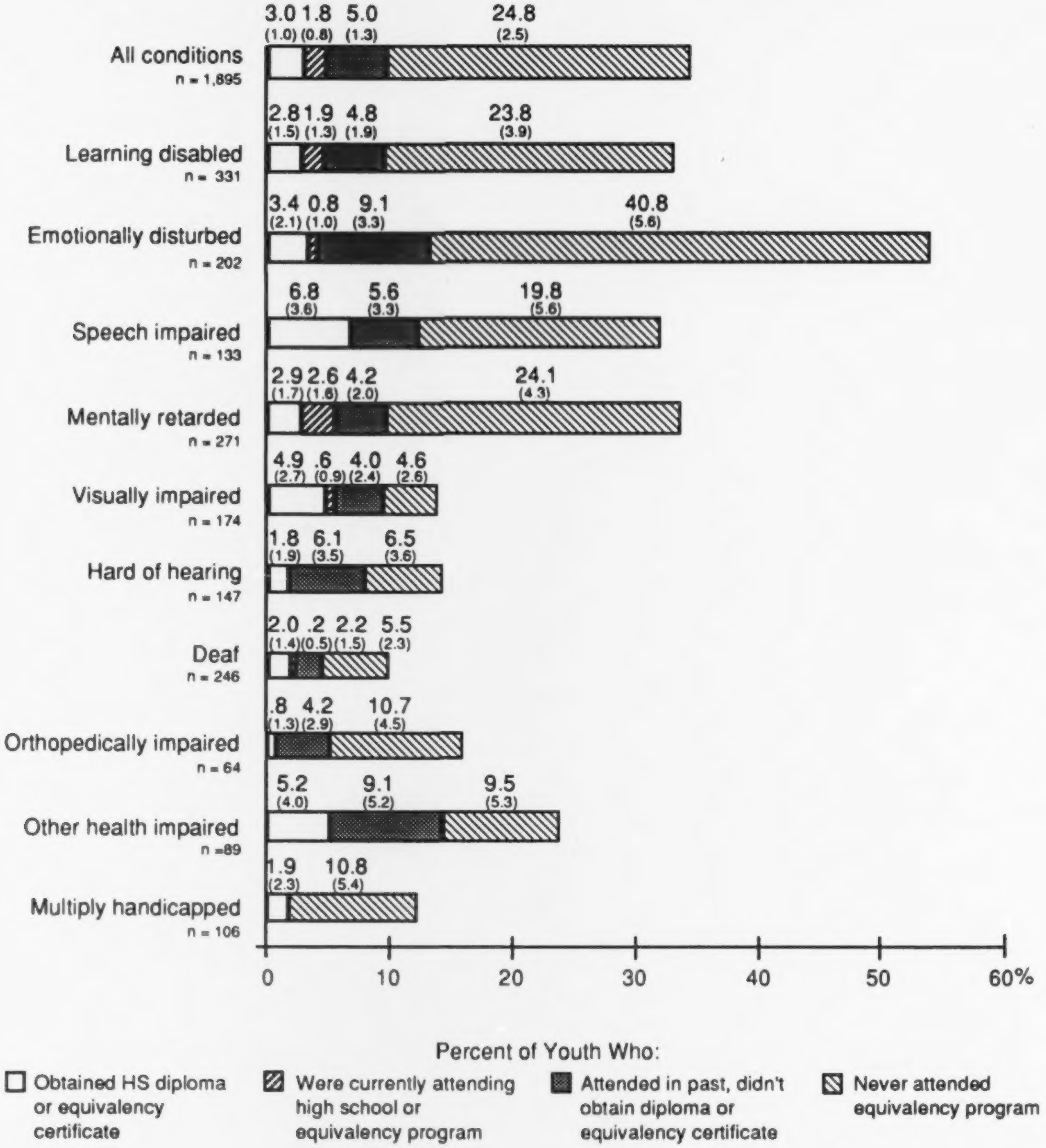
* The figure presented for youth with disabilities includes youth who were reported to be secondary school dropouts in 1987 and either were reported to be secondary school graduates in 1990 or were reported to have attended a secondary equivalency program and attained a diploma as a result between the 1987 and 1990 interviews. The figure may understate somewhat the total percentage of dropouts that obtained diplomas or certificates because it may exclude youth who passed an equivalency exam without attending a secondary program to prepare for it. The number of such youth is likely to be small, so that their exclusion should result in at most a slight underestimate of the total percentage of youth completing secondary programs after dropping out.

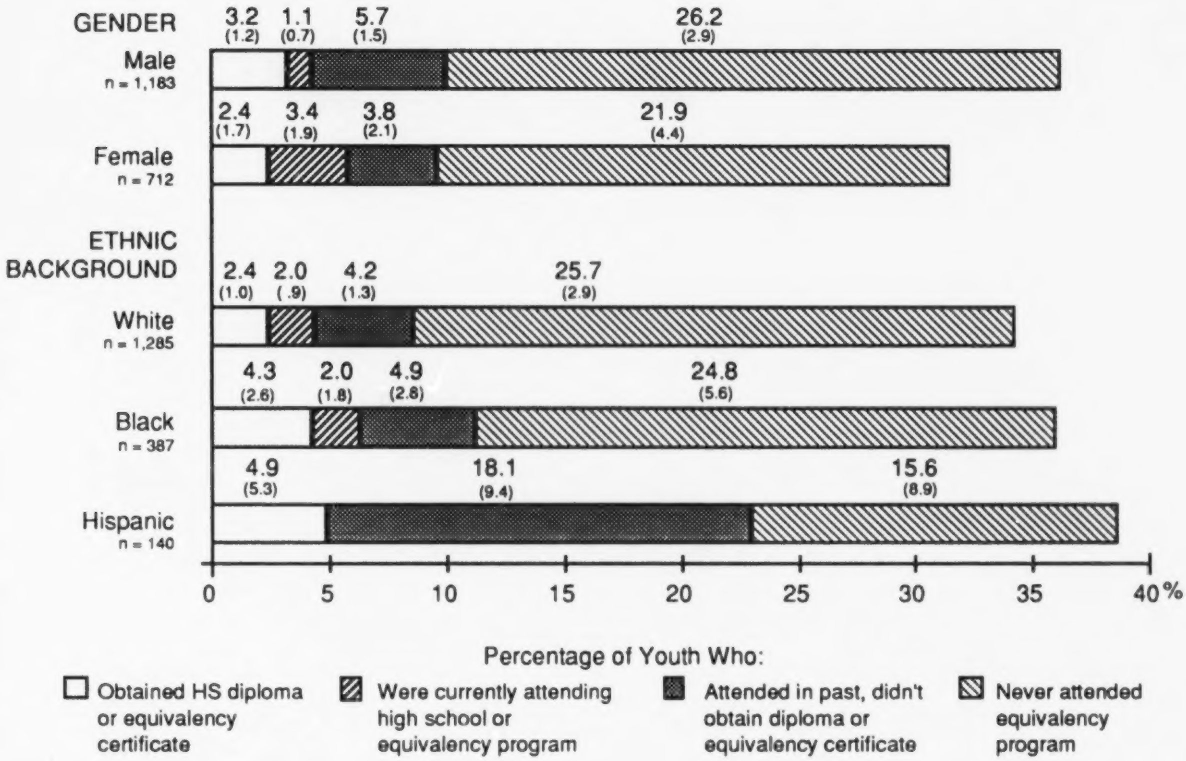


Standard errors are in parentheses.

Note: Bars represent youth who dropped out of secondary school.

Youth classifed as deaf/blind are not included because of small sample size.

FIGURE 3-3 SECONDARY SCHOOL COMPLETION STATUS OF YOUTH 3 TO 5 YEARS AFTER DROPPING OUT OF SECONDARY SCHOOL, BY DISABILITY CATEGORY



Standard errors are in parentheses.

Note: Bars represent youth who dropped out of secondary school.

FIGURE 3-4 SECONDARY SCHOOL COMPLETION STATUS OF YOUTH WITH DISABILITIES 3 TO 5 YEARS AFTER DROPPING OUT OF SECONDARY SCHOOL, BY GENDER AND ETHNIC BACKGROUND

Postsecondary Education

With declining enrollments, many colleges and postsecondary vocational schools are actively recruiting students with disabilities and providing broad arrays of services for them, including counseling, staff specialists, tutoring, note takers, and interpreters (*Education Daily*, 1990; Arkava and Sterrett, 1986). Information regarding services is becoming more widely available. For example, the HEATH (Higher Education for Adult Training for People with Handicaps) Resource Center, a federally funded center of information about education for individuals with disabilities, publishes a resource directory and operates the National Clearinghouse on Postsecondary Education for Handicapped Individuals. In addition, college guides are available from private publishers (e.g., Lovejoy's *College Guide for the Learning Disabled).* Federal legislation, such as the Individuals with Disabilities Education Act (P.L. 101-476) and the Americans with Disabilities Act (P.L. 101-336), also supports the transition of youth with disabilities from secondary to postsecondary schools.

Despite legislation, services, and recruitment efforts, research has found that few youth with disabilities enroll in postsecondary schools (e.g., Affleck, Edgar, Levine, and Kortering, 1990). Earlier NLTS research supported that conclusion. For example, Butler-Nalin and Wagner (1991) found that fewer than 15% of secondary special education students attended postsecondary schools in the first 2 years after high school. However, reports that postsecondary students with disabilities are older than nondisabled students (Greene and Zimbler, 1989) suggest that youth with disabilities may delay entry into postsecondary programs. If this is the case, a more complete picture of postsecondary enrollment among youth with disabilities can be obtained only by examining enrollments after the first 2 years following high school.

In this chapter, we explore postsecondary enrollment in the first 2 years after high school, and again 3 years later. After considering trends in enrollment in postsecondary programs overall and in vocational schools, 2-year colleges, and 4-year colleges separately, we examine youths' postsecondary educational experiences when they had been out of secondary school between 3 and 5 years. Did they attend postsecondary schools part time or full time? Were they pursuing academic or vocational programs? What types of grades were they earning? Finally, we consider the rates at which youth completed postsecondary educational programs.

Enrollment in Postsecondary Schools

In the summer of 1987, the NLTS asked parents of youth who had been out of secondary school less than 2 years whether their sons or daughters had been enrolled in postsecondary vocational schools, 2-year colleges, and/or 4-year colleges in the preceding year. In 1990, when youth had been out of secondary school 3 to 5 years, parents or youth were asked whether the youth had attended those types of postsecondary schools at any time since leaving secondary school.*

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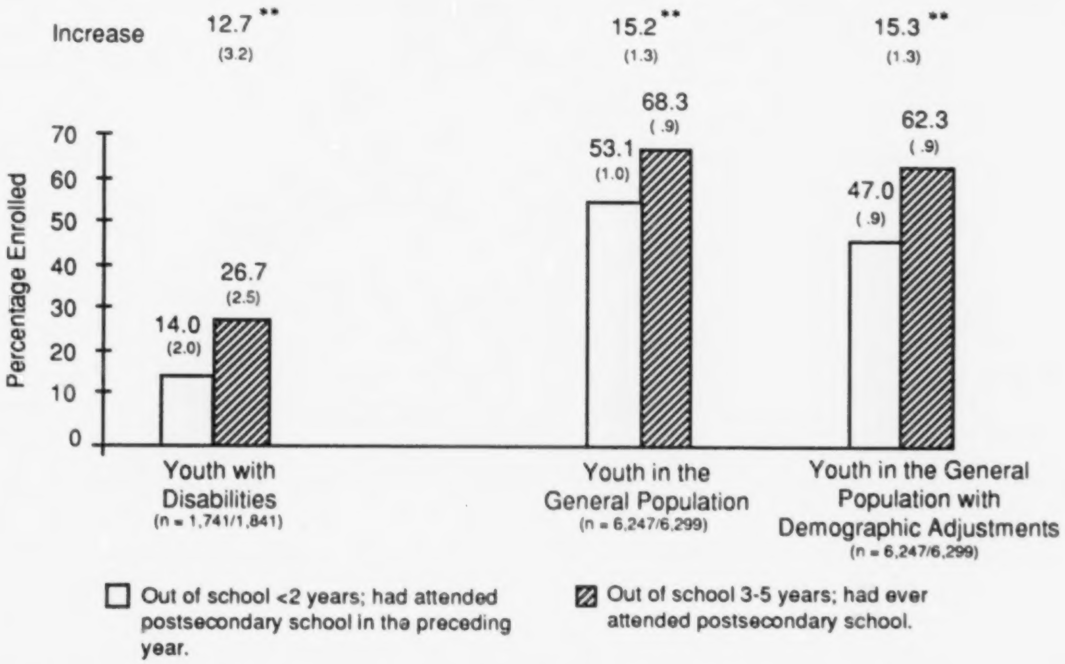
* Note that for youth who were out of school more than a year in 1987, the question asked in 1990 includes a period of time before the year covered by the 1987 interview.

When youth with disabilities had been out of school less than 2 years, only 14% were reported to have attended some type of postsecondary school during the preceding 12 months (Figure 3-5). This rate stands in sharp contrast to the enrollment rate of 53% for youth in the general population who had been out of school about the same length of time (p<.001). Even when data for the general population of youth are adjusted to match youth with disabilities for gender, ethnic background, and head of household's educational level, they show a significantly higher enrollment rate in postsecondary schools than youth with disabilities (47%, p<.001).

Three years later, an additional 13% of youth with disabilities were reported to have attended postsecondary schools at some time after leaving secondary school, for a total of 27%. This increase in enrollment rates suggests that almost as many youth with disabilities delayed entry into postsecondary schools for several years as began their postsecondary studies immediately after secondary school.



Note: Data for the general population come from the 1979-1986 National Longitudinal Survey of Youth. General population is adjusted to match youth with disabilities for gender, ethnic background, and head of household's educational level.

Standard errors are in parentheses.

** p<.01

FIGURE 3-5 TRENDS IN POSTSECONDARY SCHOOL ENROLLMENT OF YOUTH WITH DISABILITIES AND YOUTH IN GENERAL

Large increases in enrollment are not unique to youth with disabilities, however. About 15% of youth in the general population also appear to have begun their postsecondary studies after a delay. Thus, the gap between youth with disabilities and youth in general that existed when they had been out of school less than 2 years persisted when they had been out of school 3 to 5 years. At that time, only 27% of youth with disabilities had ever attended postsecondary school, compared with 68% of youth in general ($p<.001$).

The literature suggests several potential reasons for the low postsecondary attendance rates of youth with disabilities relative to youth as a whole, in addition to the effects of their disabilities. In the general population of youth, postsecondary attendance has been found to be highly associated with both family income and parents' educational level (e.g., Gardner, 1987). Thus, the relatively low rate of education among heads of households of youth with disabilities and their higher level of poverty (Marder and Cox, 1991) might explain their lower rates of postsecondary enrollment. Our adjustments to the data for demographic differences, which eliminate differences in head of household's educational level and almost certainly decrease the difference in family income between the two groups of youth at the same time, do narrow the gap between youth with disabilities and youth in general. Nevertheless a large difference persists even after the adjustments.

Differences in the timing of measurement for the NLTS and NLSY also may contribute to the differences we observe in the two populations. For many economically disadvantaged youth who attend postsecondary school, financial aid is essential. During the 1980s, there were substantial cuts in financial aid for postsecondary students (Orfield, 1990). Thus, less financial aid was available when the postsecondary enrollment of youth with disabilities was measured than when the postsecondary enrollment of youth in general was measured. This difference in availability of financial aid would be likely to result in lower rates of postsecondary attendance of youth with disabilities compared with youth in general even if the two groups had the same level of financial need. The fact that youth with disabilities are economically more needy than youth in the general population may increase the importance of this difference in timing of measurement.

Variations in Enrollment by Disability Category

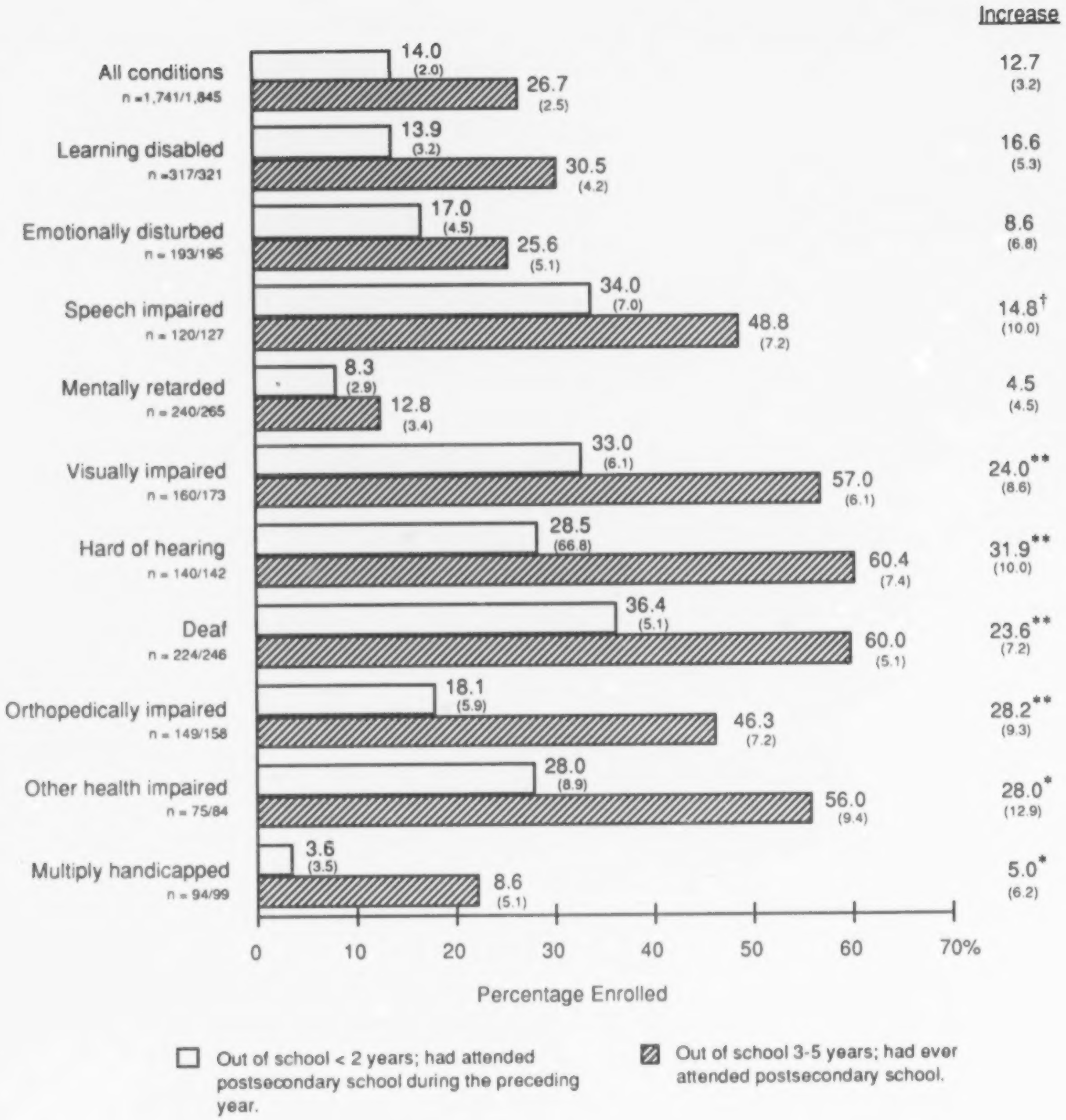
Despite the fact that enrollment rates for youth with disabilities as a group were lower than those of youth in general, youth in some disability categories were significantly more likely than others to have been postsecondary students. When youth had been out of secondary school less than 2 years, enrollment rates ranged from 4% of youth classified as multiply handicapped to more than 30% of youth classified as speech or visually impaired or deaf (Figure 3-6). There were significant increases in cumulative enrollment rates for youth in many disability categories, ranging from 15 percentage points for youth classified as speech impaired ($p<.10$) to 32 percentage points for youth classified as hard of hearing ($p<.01$). Among youth classified as seriously emotionally disturbed, mentally retarded, or multiply handicapped, the percentage of youth ever enrolled did not increase significantly. Thus, 3 to 5 years after leaving secondary school, the frequency with which youth had ever attended postsecondary schools ranged from 13% of youth classified as mentally retarded to 60% of youth classified as hard of hearing or deaf, a rate approximating that of youth in general.

Variations in Enrollment by Other Youth Characteristics

Rates of postsecondary school enrollment and increases in enrollment did not differ significantly for males and females or for white, black, and Hispanic youth (Figure 3-7). Nor did they differ for these groups of youth in each disability category. In contrast, secondary school graduates had a significantly higher enrollment rate than youth who had left secondary school in other ways. When youth had been out of school less than 2 years, graduates were more likely than youth who had dropped out or aged out of school to have attended postsecondary schools (19% vs. 6% and 11%; $p<.01$ and $p<.10$), and the gap widened over time. Among graduates, enrollments increased significantly over the following 3 years (18 percentage points, $p<.001$), while among youth who dropped out or aged out, gains in enrollment were not statistically significant. Thus, when they had been out of school 3 to 5 years, about 37% of secondary school graduates had been postsecondary students at some time since leaving high school, compared with 11% of dropouts ($p<.001$) and 18% of those who had aged out ($p<.10$).

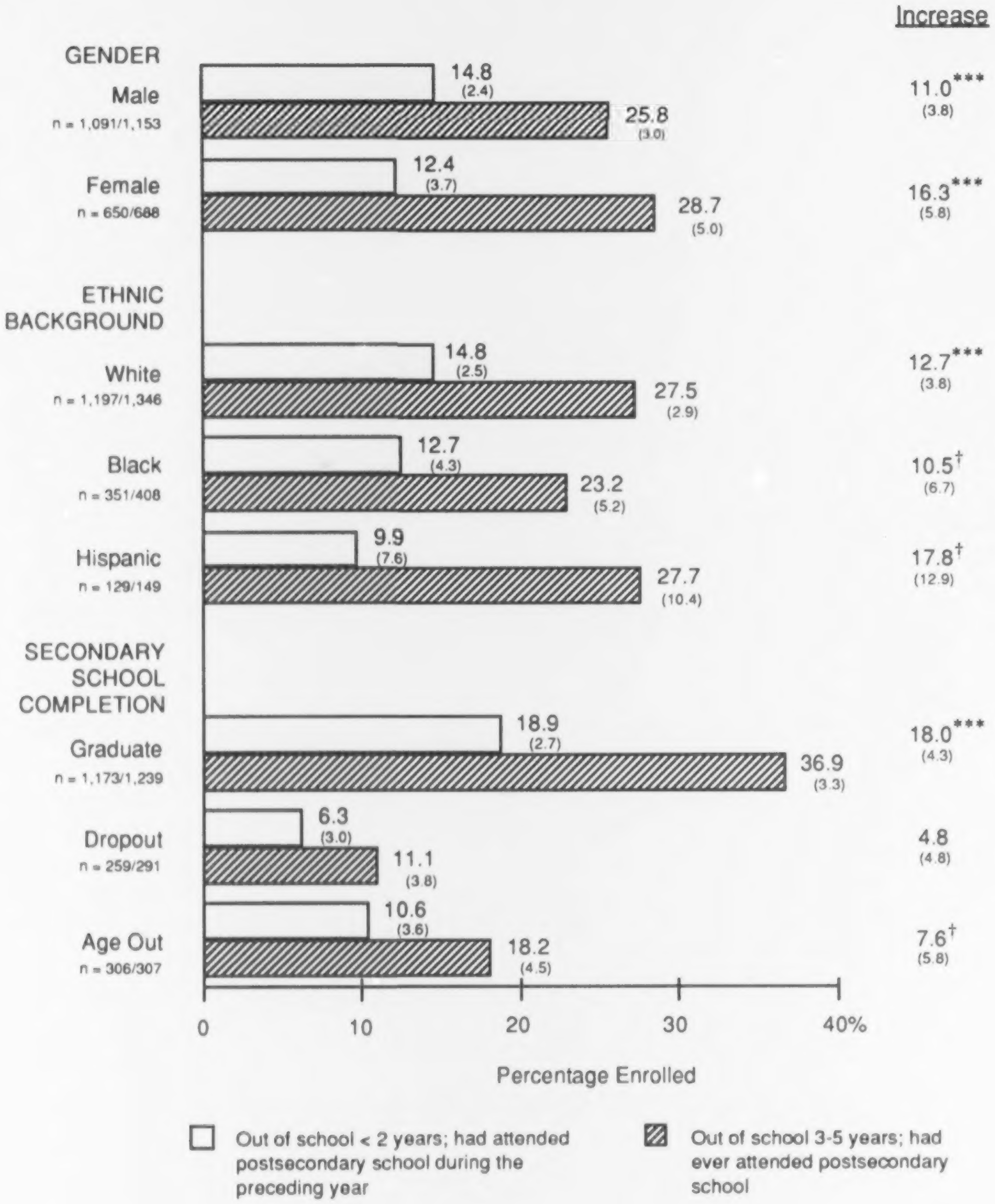
Even among graduates, however, youth with disabilities were significantly less likely than youth in general to have attended postsecondary schools. Three to 5 years after leaving secondary school, 78% of graduates in the general population (75% after adjustments for differences in gender, ethnic background, and head of household's educational level) had attended postsecondary schools, in contrast to 37% of youth with disabilities ($p<.001$). Similarly, dropouts with disabilities were less likely than dropouts in the general population to have been postsecondary students (11% vs. 27%; $p<.001$). Hence, the lower rate of postsecondary school enrollment among youth with disabilities compared with the general population of youth is not largely attributable to their higher dropout rate.

The differences in postsecondary school enrollment rates of graduates and dropouts suggest that some of the differences in the postsecondary enrollment rates of the various disability categories might be a function of differential dropout rates across the categories, rather than to disability differences. To investigate the effects of disability differences alone, we examined the postsecondary school enrollment rates of graduates within each disability



†p<.10, * p<.05, ** p<.01

FIGURE 3-6 TRENDS IN POSTSECONDARY SCHOOL ENROLLMENT OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

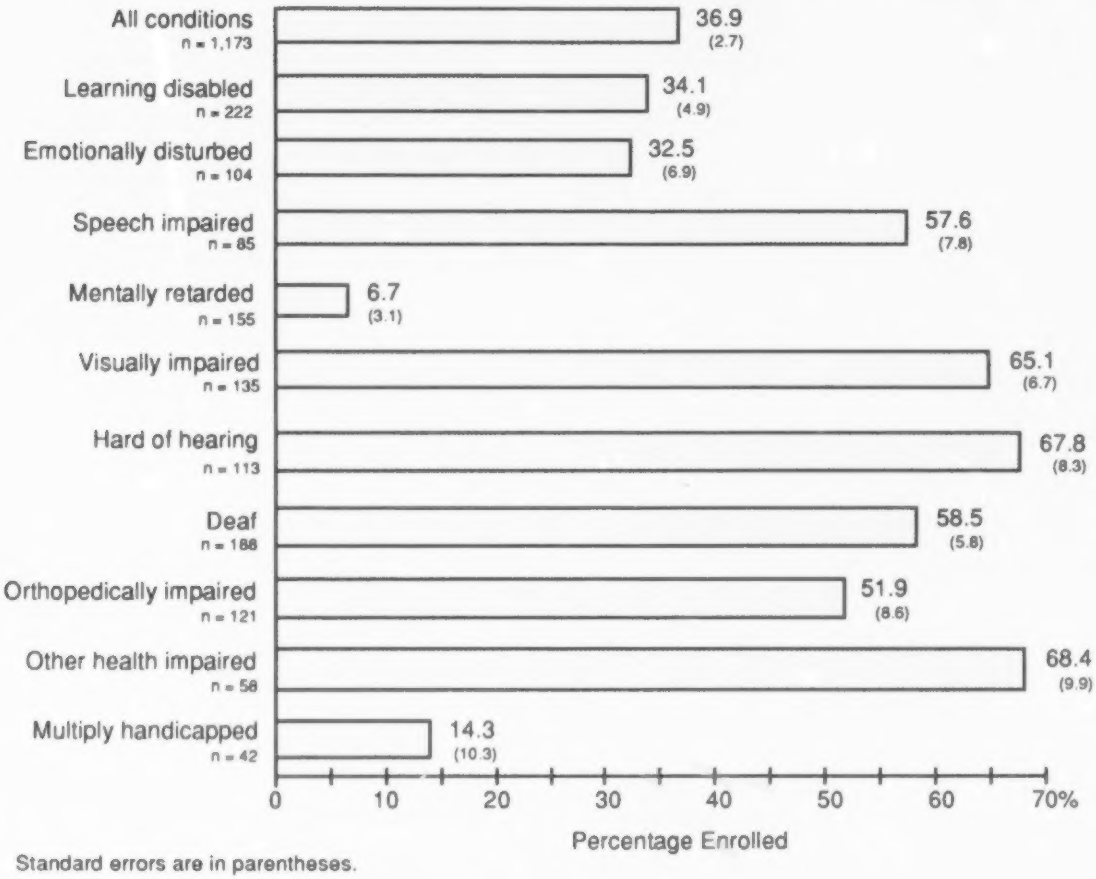


Standard errors are in parentheses.

† p<.10, *** p<.001

FIGURE 3-7 TRENDS IN POSTSECONDARY SCHOOL ENROLLMENT OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY SELECTED CHARACTERISTICS

category. These differed widely, as shown in Figure 3-8. Cumulative enrollment rates of graduates 3 to 5 years after secondary school ranged from 7% of youth classified as mentally retarded to 68% of youth classified as hard of hearing or other health impaired. Thus, differences in disability appear to have an effect on postsecondary enrollment rates independent of secondary school completion status.



Standard errors are in parentheses.

FIGURE 3-8 POSTSECONDARY ENROLLMENT RATES OF SECONDARY SCHOOL GRADUATES 3 TO 5 YEARS AFTER SECONDARY SCHOOL, BY DISABILITY CATEGORY

Enrollment in Different Types of Postsecondary Schools

Youth with disabilities were about equally likely to have attended postsecondary vocational schools as 2-year colleges, with about 16% of youth having attended the former and 12% the latter by the time they had been out of secondary school 3 to 5 years (Table 3-2). Attendance at 4-year colleges was less common, with only 4% of youth having attended such schools 3 to 5 years after leaving high school (p<.01). Attendance at both vocational schools and colleges was substantially less common for youth with disabilities than for youth in the general population, among whom 23% had attended postsecondary vocational schools (p<.001) and 65% had attended some type of college (p<.001).

The types of schools attended by youth with various disability classifications differed. For example, youth classified as learning disabled were less likely to have attended 4-year colleges than 2-year colleges or postsecondary vocational schools (4% vs. 14% and 19%; p<.05). In contrast, youth with visual impairments were more likely to have attended 2- and 4-year colleges (28% and 33%) than postsecondary vocational schools (16%; p<.10 and p<.01), and youth classified as deaf or other health impaired were not significantly more likely to have attended any one type of school than the others.

Enrollment rates at the various types of schools did not vary significantly by gender or ethnic background (Table 3-3). However, they did differ substantially for youth with different modes of secondary school completion. Given that a high school diploma is a prerequisite for many postsecondary programs, it is not surprising that graduates were much more likely than dropouts to have attended each type of school. For example, 3 to 5 years after secondary school, 21% of graduates had attended a postsecondary vocational school, compared with 8% of dropouts (p<.001). Similarly, 17% of graduates had attended 2-year colleges and 7% had attended 4-year colleges, compared with 4% and fewer than 1% of dropouts (p<.001). Although youth who had aged out of secondary school were not significantly less likely than graduates to have attended postsecondary vocational schools, significantly fewer of them had attended 2- and 4-year colleges (8% vs. 17% and 1% vs. 7%; p<.05).

Both graduates and dropouts with disabilities were significantly less likely to have enrolled in colleges (2-year or 4-year) than their counterparts in the general population. Whereas 69% of graduates and 16% of dropouts in the general population had attended colleges, only 21% of graduates and 4% of dropouts with disabilities had done so (Figure 3-9, p<.001). In contrast, the picture concerning postsecondary vocational school enrollment is mixed. Among graduates, about the same percentages of youth with disabilities and youth in general had attended such schools (22%); however, among dropouts, fewer youth with disabilities than youth in general had attended (8% vs. 15%, p<.05).

Table 3-2

PERCENTAGE OF YOUTH WITH DISABILITIES WHO WERE OUT OF SCHOOL 3 TO 5 YEARS THAT HAD EVER ATTENDED POSTSECONDARY SCHOOL, BY TYPE OF SCHOOL AND DISABILITY CATEGORY

	Percentage of Youth That Attended:			
	Postsecondary Vocational School	2-year College	4-year College	n
All youth	15.9 (2.1)	11.8 (1.9)	4.2 (1.2)	1,841
Disability category				
Learning disabled	19.0 (3.6)	13.7 (3.2)	4.4 (1.9)	321
Emotionally disturbed	15.4 (4.2)	10.1 (3.5)	4.2 (2.3)	321
Speech impaired	16.4 (5.3)	25.4 (6.3)	13.3 (4.9)	127
Mentally retarded	9.6 (3.0)	3.6 (1.9)	0 (0.0)	265
Visually impaired	15.6 (4.5)	27.5 (5.6)	33.4 (5.9)	173
Hard of hearing	16.0 (5.6)	40.4 (7.5)	15.7 (5.5)	142
Deaf	22.5 (6.9)	33.2 (6.9)	22.1 (3.7)	246
Orthopedically impaired	12.6 (4.8)	32.3 (6.8)	12.9 (4.9)	158
Other health impaired	33.9 (8.9)	28.4 (8.4)	21.9 (7.7)	84
Multiply handicapped	0.7 (1.5)	7.9 (4.9)	2.2 (2.7)	99
Deaf/blind	13.4 (8.1)	8.9 (6.8)	8.9 (6.8)	31

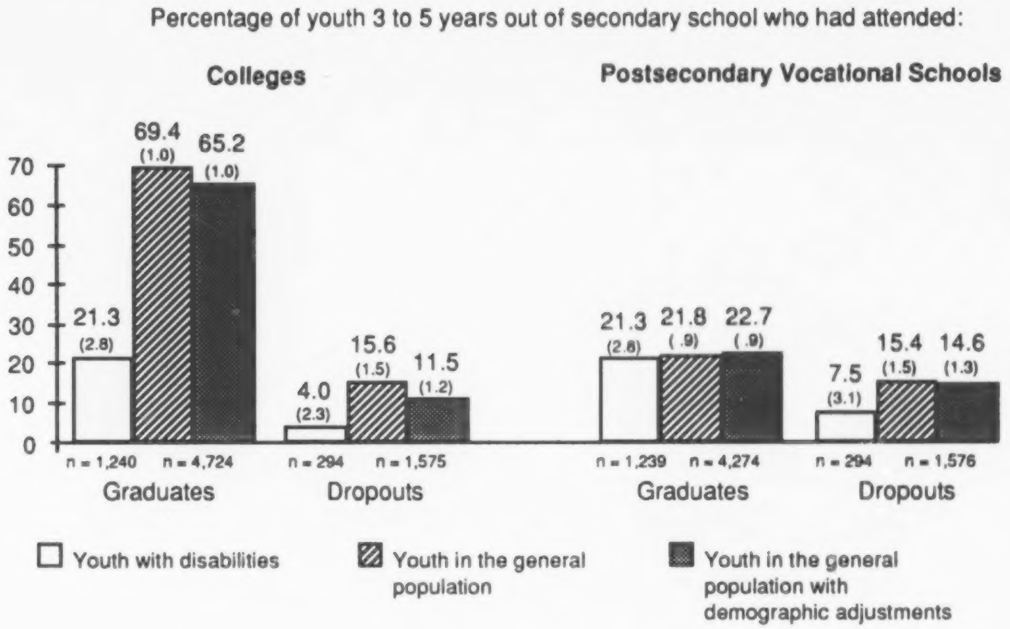
Standard errors are in parentheses.

Table 3-3

TYPES OF POSTSECONDARY SCHOOLS ATTENDED BY YOUTH WITH DISABILITIES, BY SELECTED CHARACTERISTICS

	Percentage of Youth That Attended:			
	Postsecondary Vocational School	2-year College	4-year College	n
Gender				
Male	16.5 (2.5)	10.7 (2.1)	4.0 (1.3)	1,153
Female	14.4 (3.9)	14.2 (3.8)	4.5 (2.3)	658
Ethnic background				
White	16.1 (2.5)	13.5 (2.3)	4.8 (1.4)	1,253
Black	15.6 (4.6)	7.7 (3.5)	3.4 (2.4)	378
Hispanic	20.0 (9.9)	11.8 (8.0)	1.8 (3.3)	134
Secondary school completion status				
Graduate	21.3 (2.8)	16.8 (2.6)	7.0 (1.7)	1,239
Dropout	7.5 (3.1)	4.0 (2.4)	.0 .2	291
Ageout	11.4 (3.7)	8.0 (3.7)	1.2 (1.3)	307

Standard errors are in parentheses.



Standard errors are in parentheses.

Note: Data for the general population come from the 1979-1986 National Longitudinal Survey of Youth. General population is adjusted to match youth with disabilities for gender, ethnic background, and head of household's educational level.

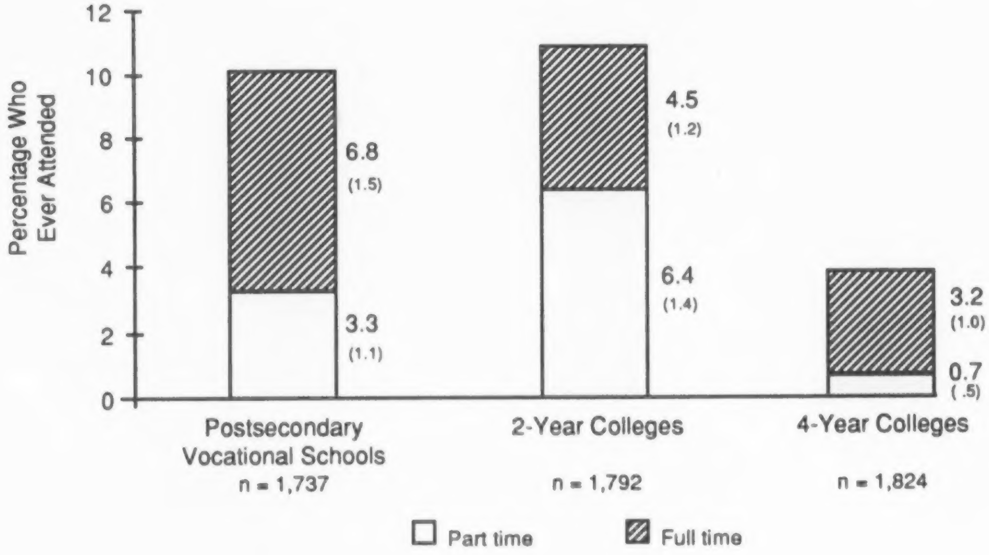
FIGURE 3-9 ENROLLMENT IN COLLEGES AND POSTSECONDARY VOCATIONAL SCHOOLS BY GRADUATES AND DROPOUTS WITH DISABILITIES AND THOSE IN THE GENERAL POPULATION

Characteristics of Postsecondary Education

Part-time vs. Full-time Attendance

During the 1990 interview, for each type of postsecondary school a youth was attending or had attended, respondents were asked whether the youth went "mostly full time or mostly part time." Overall, more than half of youth who had ever attended postsecondary schools were reported to have been full-time students.

The likelihood of youth being full-time postsecondary students varied depending on the type of school in which they enrolled. About two-thirds of students who attended postsecondary vocational schools and by far the majority of students (82%) who attended 4-year colleges went full time (Figure 3-10). In contrast, fewer than half of youth with disabilities (41%) who attended 2-year colleges were full-time students.



Standard errors are in parentheses.

Note: Bars represent postsecondary school students.

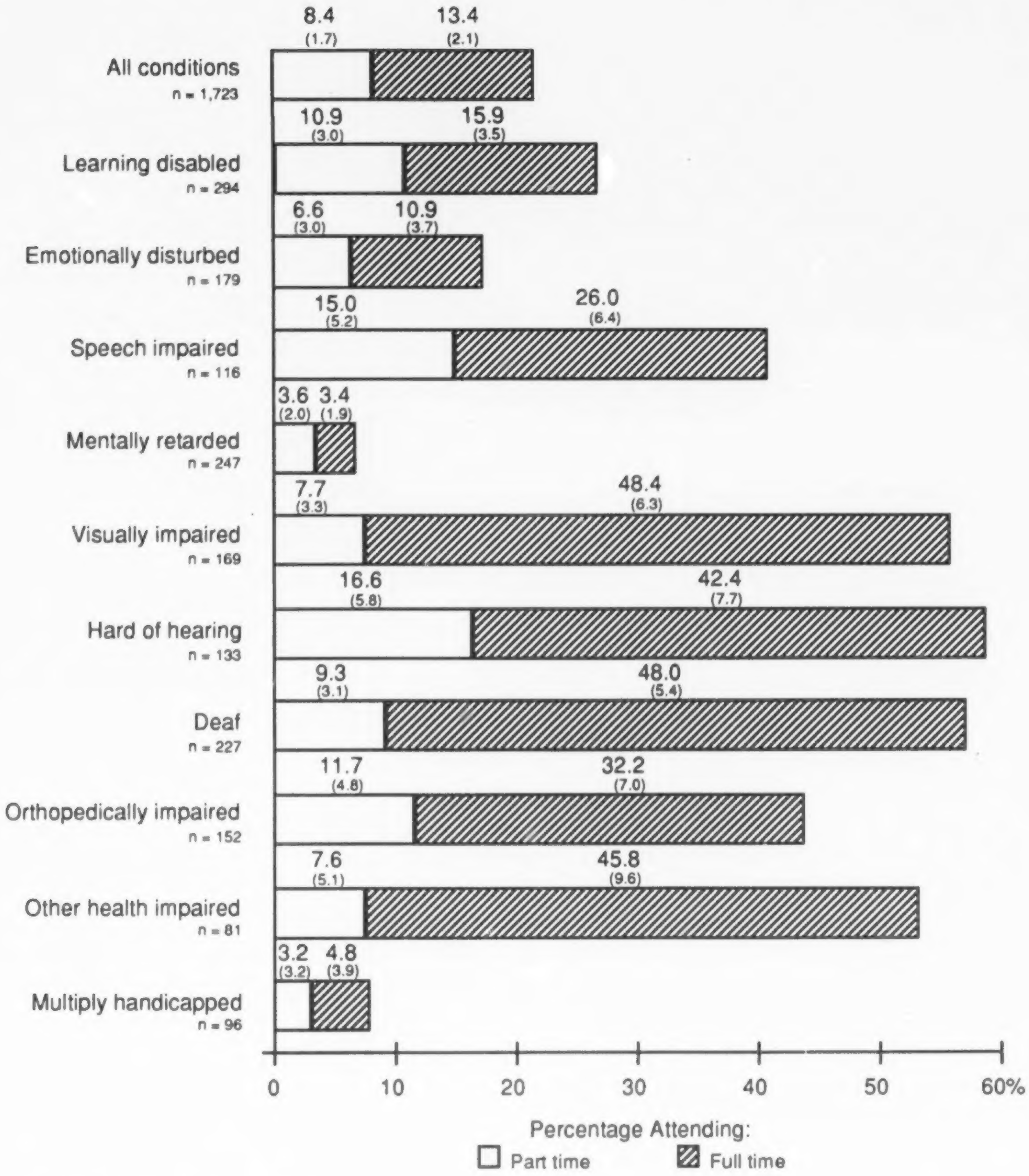
FIGURE 3-10 YOUTH WITH DISABILITIES WHO EVER ATTENDED POSTSECONDARY SCHOOL PART TIME AND FULL TIME, BY TYPE OF SCHOOL

Full-time enrollment was much more common for youth with some disability classifications than for others (Figure 3-11). For example, among youth classified as visually impaired, 48% were full-time students whereas only 8% were part-time students. In contrast, part-time and full-time enrollment were about equally common for youth classified as seriously emotionally disturbed, mentally retarded, or multiply handicapped. It is notable that the categories with the greatest rates of full-time enrollment are also the categories with the highest rates of overall postsecondary enrollment, and the categories with low rates of full-time enrollment have very low rates of overall enrollment.

No differences in percentages of part-time and full-time enrollment among students were found for males and females or youth with different ethnic backgrounds (Figure 3-12). However, whereas secondary school graduates were more likely to be full-time than part-time postsecondary students (21% vs. 11%, $p<.001$), there were no significant differences for dropouts or ageouts. Again, the higher rate of full-time enrollment for graduates probably relates to their more frequent enrollment in 4-year colleges.

Measures of the extent of full-time enrollment of postsecondary students in the general population are available only for high school graduates. Estimates based on the High School and Beyond senior class of 1982 show that almost 4 years after graduation, 86% of postsecondary students had attended full time (Eagle, 1987). In contrast, among postsecondary students with disabilities who were secondary school graduates, about 66% had attended full time. Thus, even restricting the comparison to postsecondary students who were high school graduates, youth with disabilities were significantly less likely to have attended school full time than their counterparts in the general population ($p<.05$).

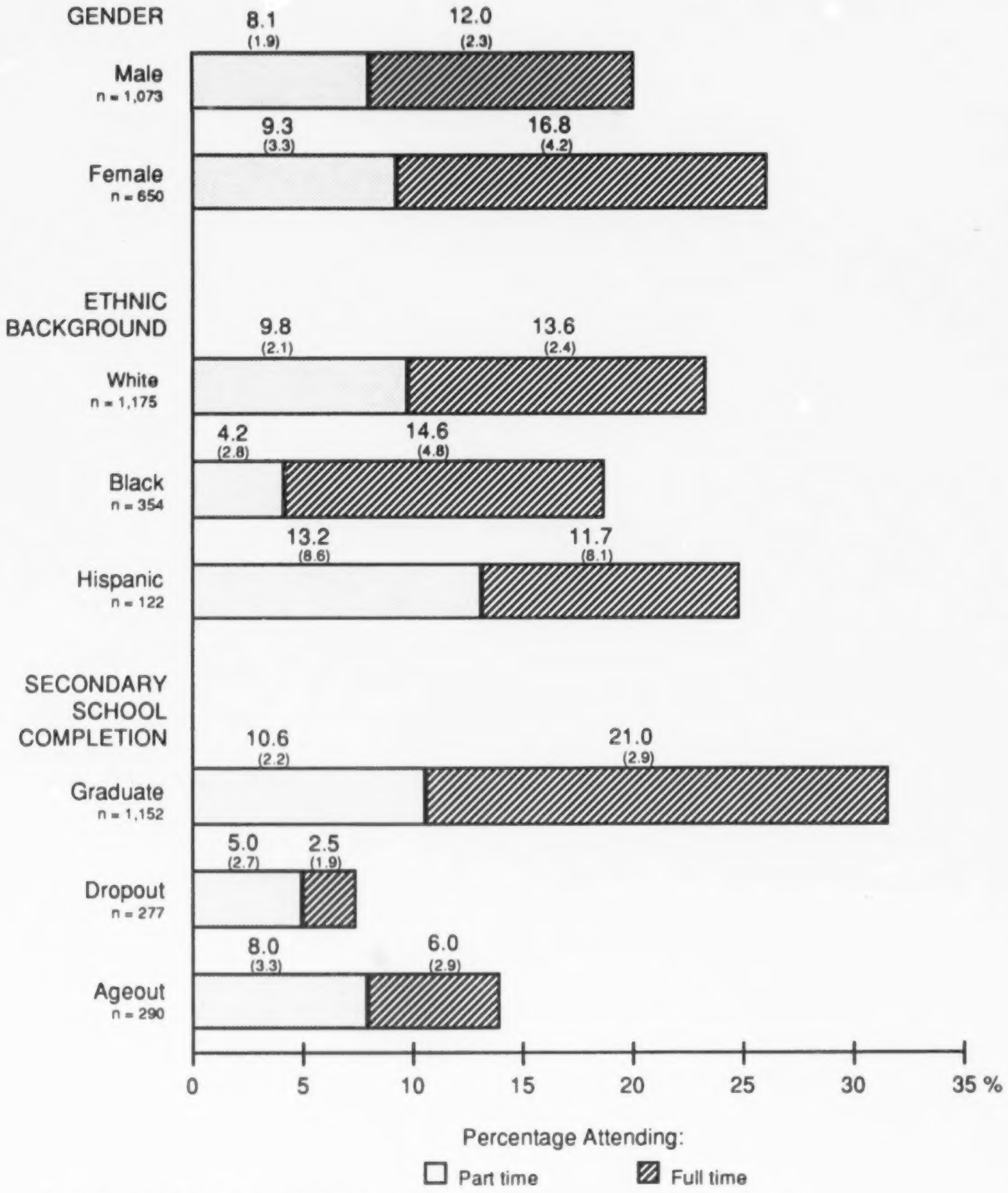
The lower rate of full-time attendance among postsecondary students with disabilities is consistent with findings for the general population that ability, socioeconomic status of family, and having taken an academic program in high school are positively associated with full-time attendance (Eagle, 1987; Gardner, 1987). Thus, given that youth with disabilities were disproportionately poor, and many did not have high levels of academic ability and did not pursue academic programs in secondary school, one would expect their rates of full-time attendance to be lower than those of youth in general. In addition, part-time enrollment may have been adaptive for some youth with disabilities. For example, for youth who needed to accommodate special learning styles or cope with time-consuming aspects of a disability (such as treatments or therapies), the option of part-time enrollment may have enabled them to pursue a postsecondary education at all.



Standard errors are in parentheses.

Note: Bars represent postsecondary school students.

FIGURE 3-11 YOUTH WITH DISABILITIES WHO ATTENDED POSTSECONDARY SCHOOL PART TIME AND FULL TIME, BY DISABILITY CATEGORY



Standard errors are in parentheses.

Note: Bars represent postsecondary school students.

FIGURE 3-12 YOUTH WITH DISABILITIES WHO ATTENDED POSTSECONDARY SCHOOL PART TIME AND FULL TIME, BY YOUTH CHARACTERISTICS

Vocational vs. Academic Programs

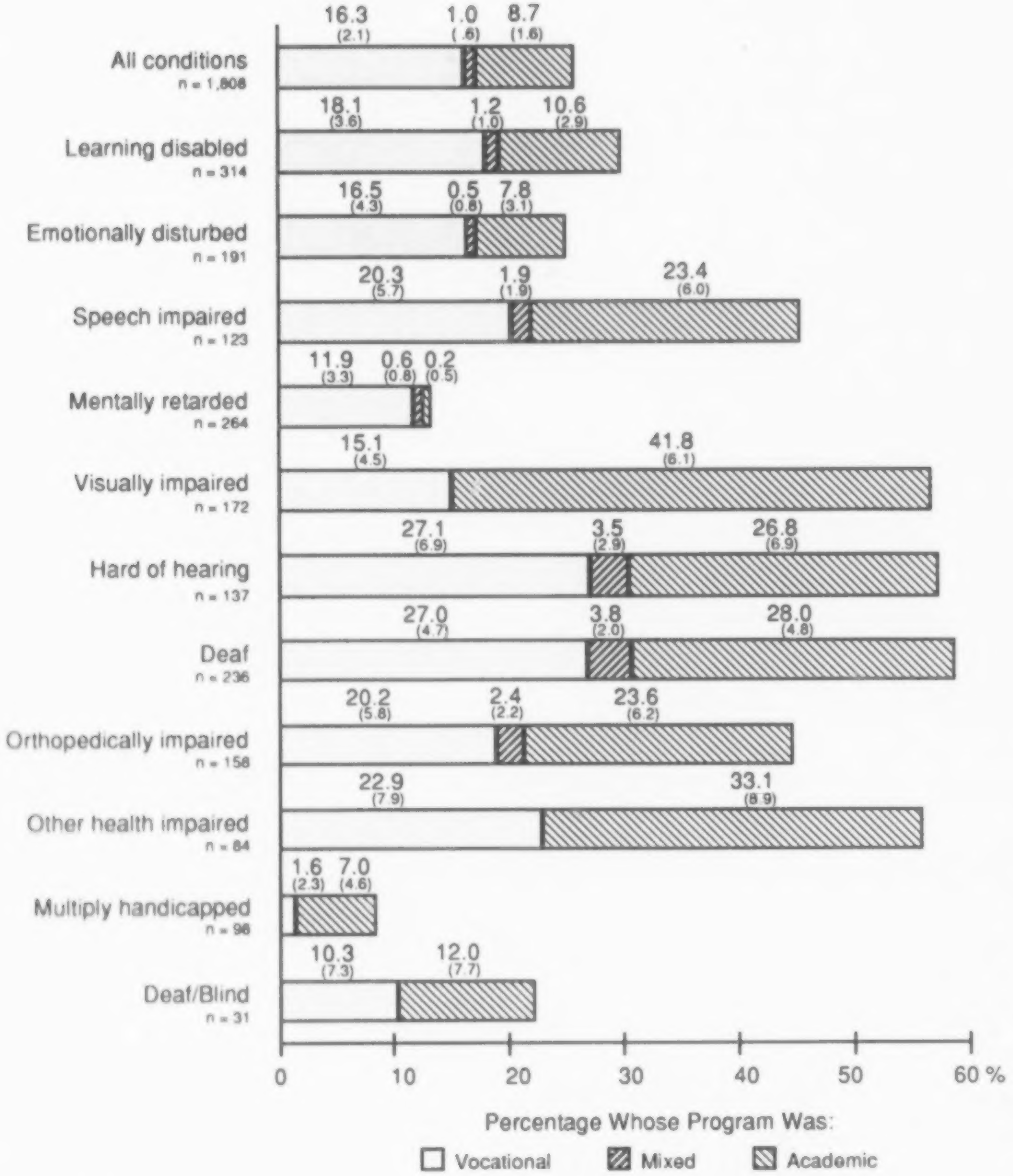
Earlier, we saw that about as many youth with disabilities attended 2- or 4-year colleges as attended postsecondary vocational schools (Table 3-2). However, we cannot assume from this that half of postsecondary students with disabilities pursued academic programs. Many 2-year colleges have a strong vocational focus; thus, students in these colleges may be in either type of program. To understand better the postsecondary education programs of students with disabilities, the NLTS asked whether students at 2-year colleges had "taken mostly vocational courses to train him/her for a job, like auto repair or office work, or mostly academic courses, like English or science? Students at 2-year colleges taking primarily vocational programs were included with those attending postsecondary vocational schools to determine the total propensity of students to take vocational programs. Similarly, 2-year college students taking primarily academic programs were included with youth attending 4-year colleges to determine the percentage of youth with disabilities pursuing academic studies.

Youth with disabilities were almost twice as likely to pursue vocational as academic programs, as shown in Figure 3-13 (16% vs. 9%; p<.01). However, within most disability classifications, there were no statistically significant differences in rates of enrollment in the two types of programs. Exceptions are youth classified as visually impaired or mentally retarded. Among the former, enrollment in academic programs was more common than enrollment in vocational programs (42% vs. 15%; p <.001); among the latter, whereas 12% of youth had enrolled in vocational programs, virtually none had enrolled in academic programs (.2%).

In general, patterns of enrollment in vocational and academic programs did not differ by gender or ethnic background (Figure 3-14). However, there were differences between the enrollment patterns of youth who graduated from secondary school and those who did not. Secondary school graduates had enrolled in both academic and vocational programs (about 20% in vocational programs and 14% in academic programs, a statistically nonsignificant difference). In contrast, about 10% of youth who had dropped out or aged out of secondary school had enrolled in vocational programs, and virtually none had enrolled in academic programs (p<.001).

Grades

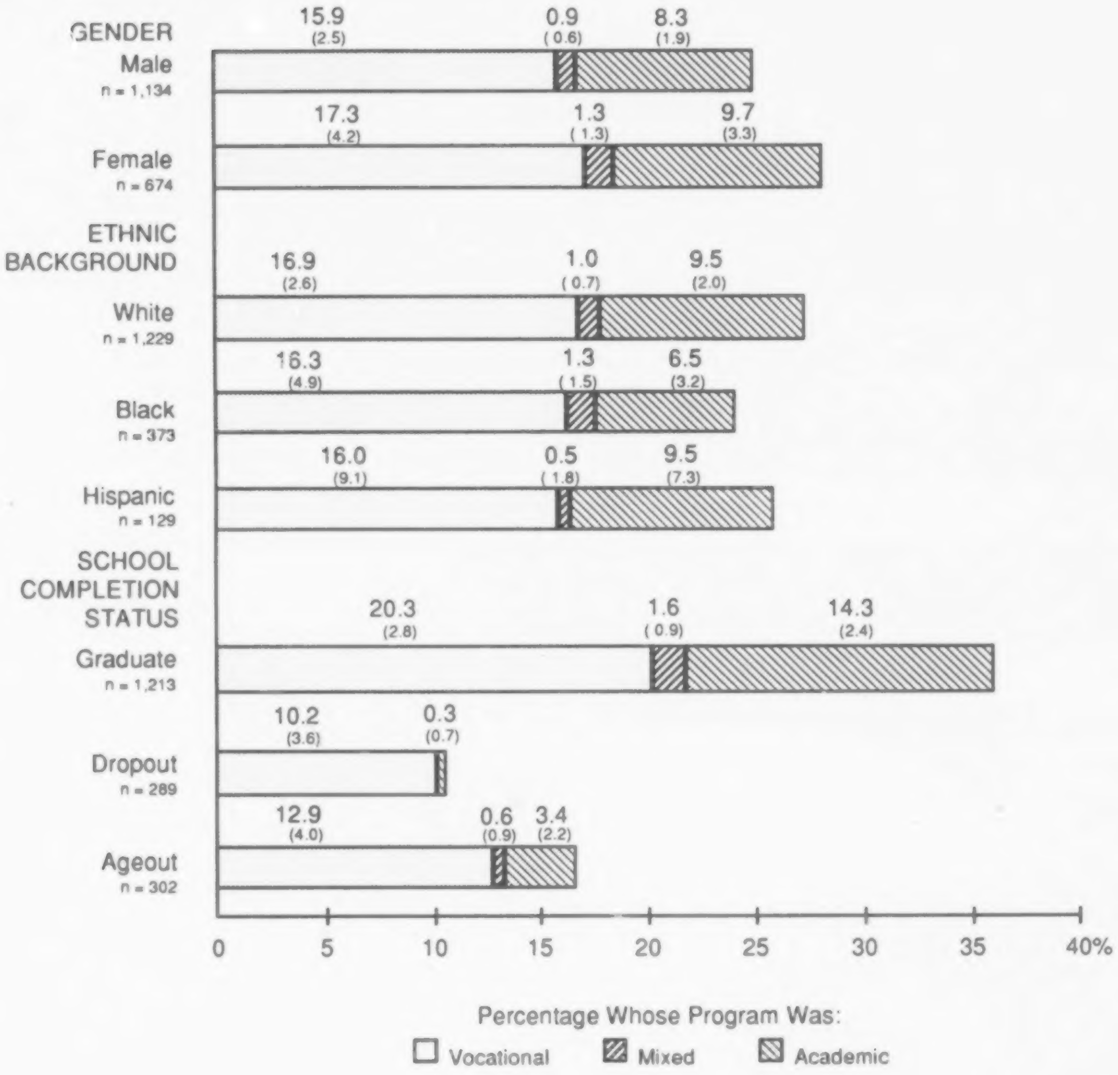
Almost three-fourths of postsecondary students with disabilities received grades and, in general, were reported to have done well. If a youth had received grades in postsecondary school during the 12 months preceding the fall of 1990, respondents for the 1990 parent/youth interview were asked whether the youth had received "Mostly A's, mostly B's, mostly C's, or mostly D's or below." Respondents also were permitted to answer that youth had received two different grades about evenly (e.g., "about half A's and half B's"). Thus, the grades reported in this section are based on reports by youth themselves or by their parents, not official grade reports from schools. The extent to which the grades reported correspond to the actual grades received by the youth is not known.



Standard errors are in parentheses.

Note: Bars represent postsecondary school students.

FIGURE 3-13 YOUTH WITH DISABILITIES WHO HAD ENROLLED IN ACADEMIC AND VOCATIONAL POSTSECONDARY PROGRAMS, BY DISABILITY CATEGORY



Standard errors are in parentheses.

Note: Bars represent postsecondary school students.

FIGURE 3-14 YOUTH WITH DISABILITIES WHO HAD ENROLLED PRIMARILY IN ACADEMIC AND VOCATIONAL PROGRAMS, BY SELECTED YOUTH CHARACTERISTICS

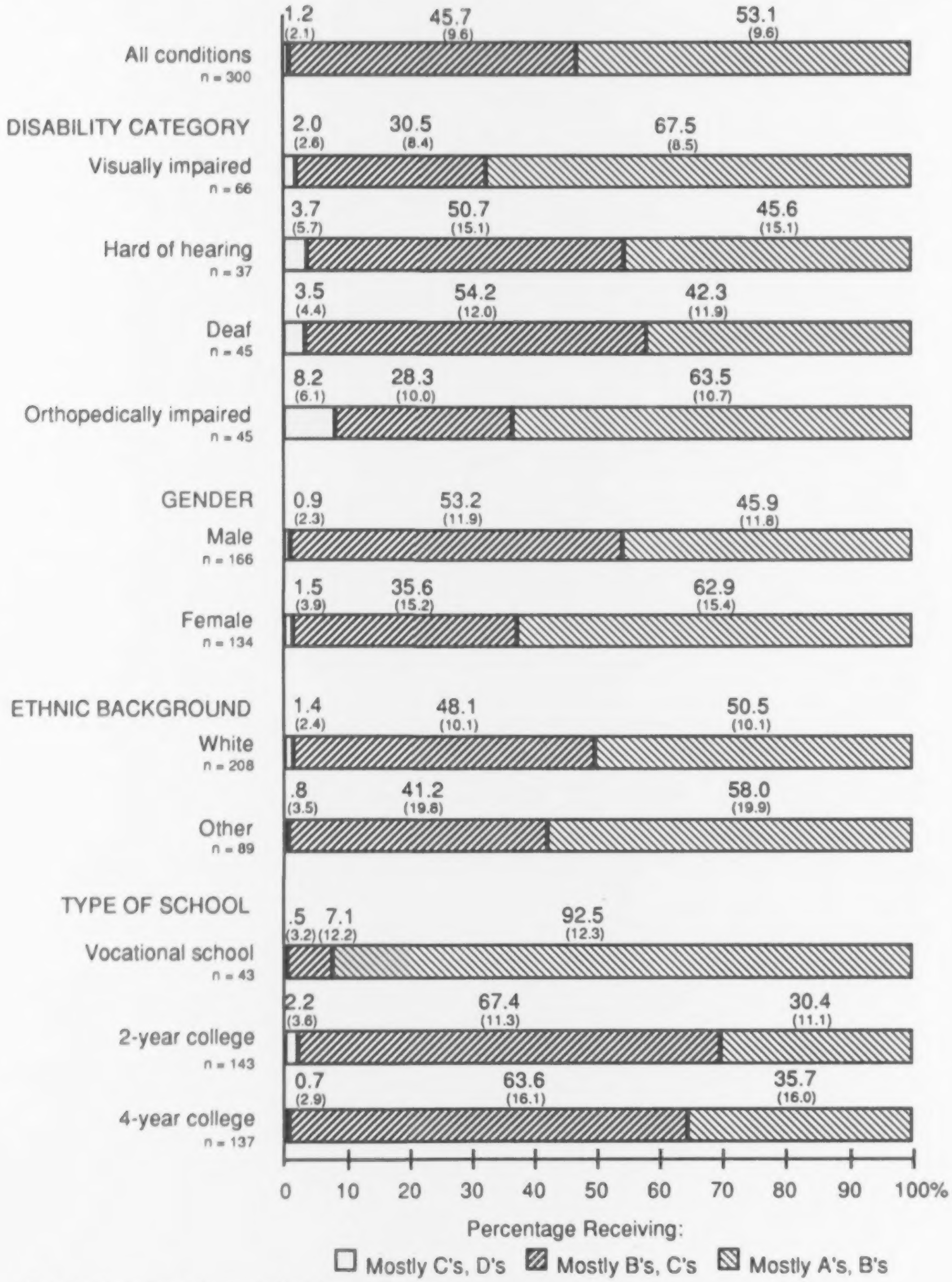
Three to 5 years after secondary school, more than half (53%) of youth who had been postsecondary students were reported to have received grades of "mostly B's" or better, and the vast majority of the remaining students (46% of all students) were reported to have received "mostly B's and C's" (Figure 3-15). Only 1% of students were reported to have received lower than half C's. These grades do not differ significantly from those of the general population of secondary students, among whom about 42% received "mostly B's" or better, 40% received "about half B's and C's, or C's", and 4% received "mostly C's and D's" (Sebring, 1987).

Because there were few postsecondary students in our sample, we could examine variations in grades for only a few disability categories. There were no statistically significant differences among them, or between males and females or whites and minorities. However, grades did differ between students at vocational schools and at colleges. Almost all students at postsecondary vocational schools were reported to have received "mostly B's" or better (92%). In contrast, students at 2-year colleges were more likely to have received B's and C's than A's and B's (67% vs. 30%, $p< .05$). The difference between the percentage of students at 4-year colleges reported to have received A's and B's and those receiving B's and C's was not statistically significant.

Program Completion

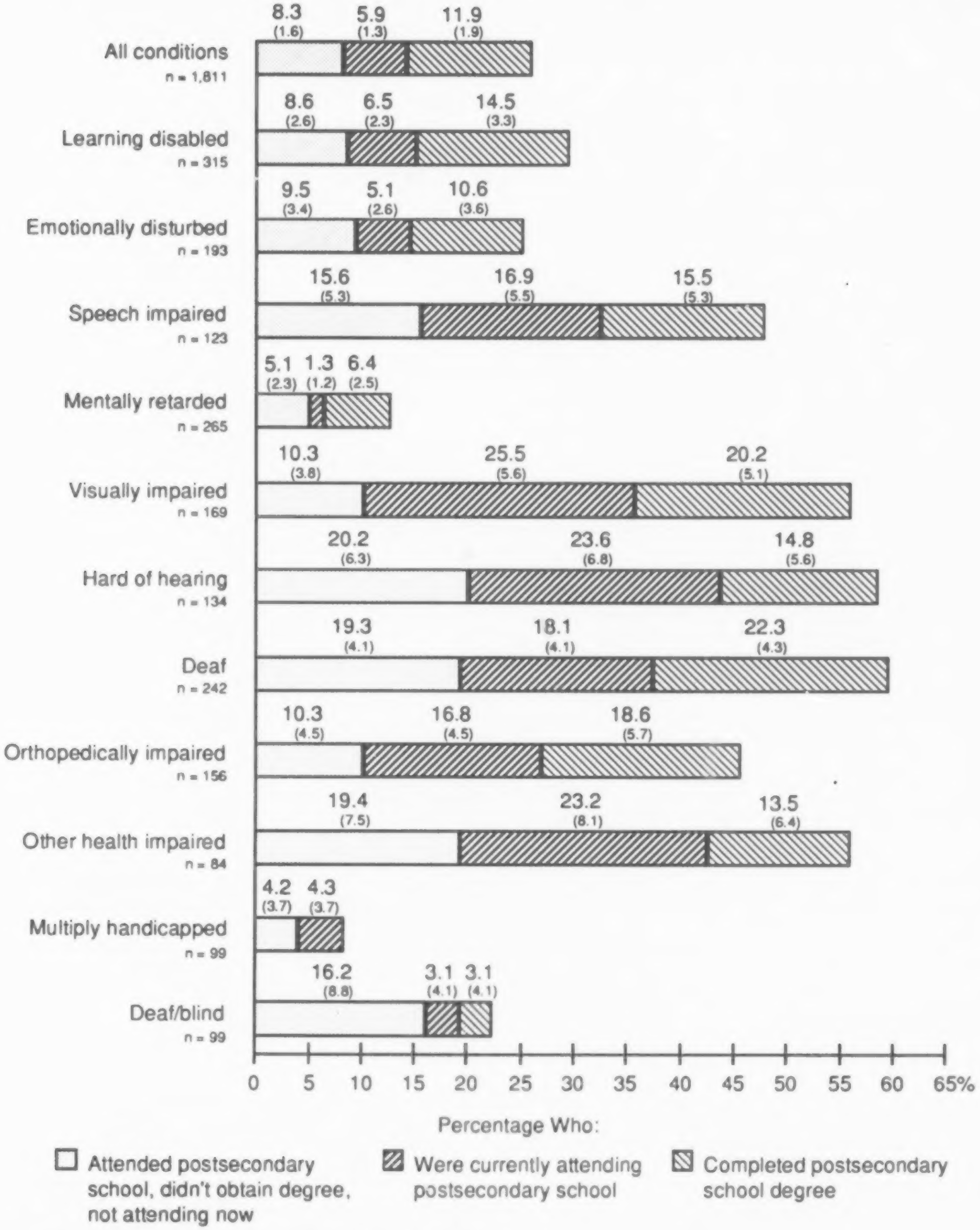
Although simply attending school can provide youth with valuable information and skills, it is the credential—the degree, license, or certificate—from the schooling that youth can carry into the job market to attest to the knowledge and skills they have acquired. To assess program completion for each type of postsecondary school a youth had attended, the NLTS asked respondents whether the youth had "gotten a diploma, certificate, or license from this work." (Respondents were asked to include certificates or licenses that were not issued directly by a school, if they resulted from work done at the school.) Because some youth had not completed programs, the NLTS also asked youths' current enrollment status at each type of school.

Three to 5 years after secondary school, about 12% of youth with disabilities had obtained postsecondary degrees, diplomas, licenses, or certificates, and another 6% were attending postsecondary schools (Figure 3-16). These percentages are somewhat lower than the 18% of youth in the general population who had received some type of degree 6 years after their sophomore year in high school ($p<.05$; Sebring et al., 1987) and the approximately 27% who were enrolled in postsecondary programs during that year ($p<.001$; Eagle, 1987).



Standard errors are in parentheses.

FIGURE 3-15 GRADES OBTAINED IN LAST 12 MONTHS BY POSTSECONDARY STUDENTS WITH DISABILITIES



Note: Bars represent postsecondary school students.
Standard errors are in parentheses.

FIGURE 3-16 POSTSECONDARY DEGREE COMPLETION OF YOUTH WITH DISABILITIES, BY DISABILITY CATEGORY

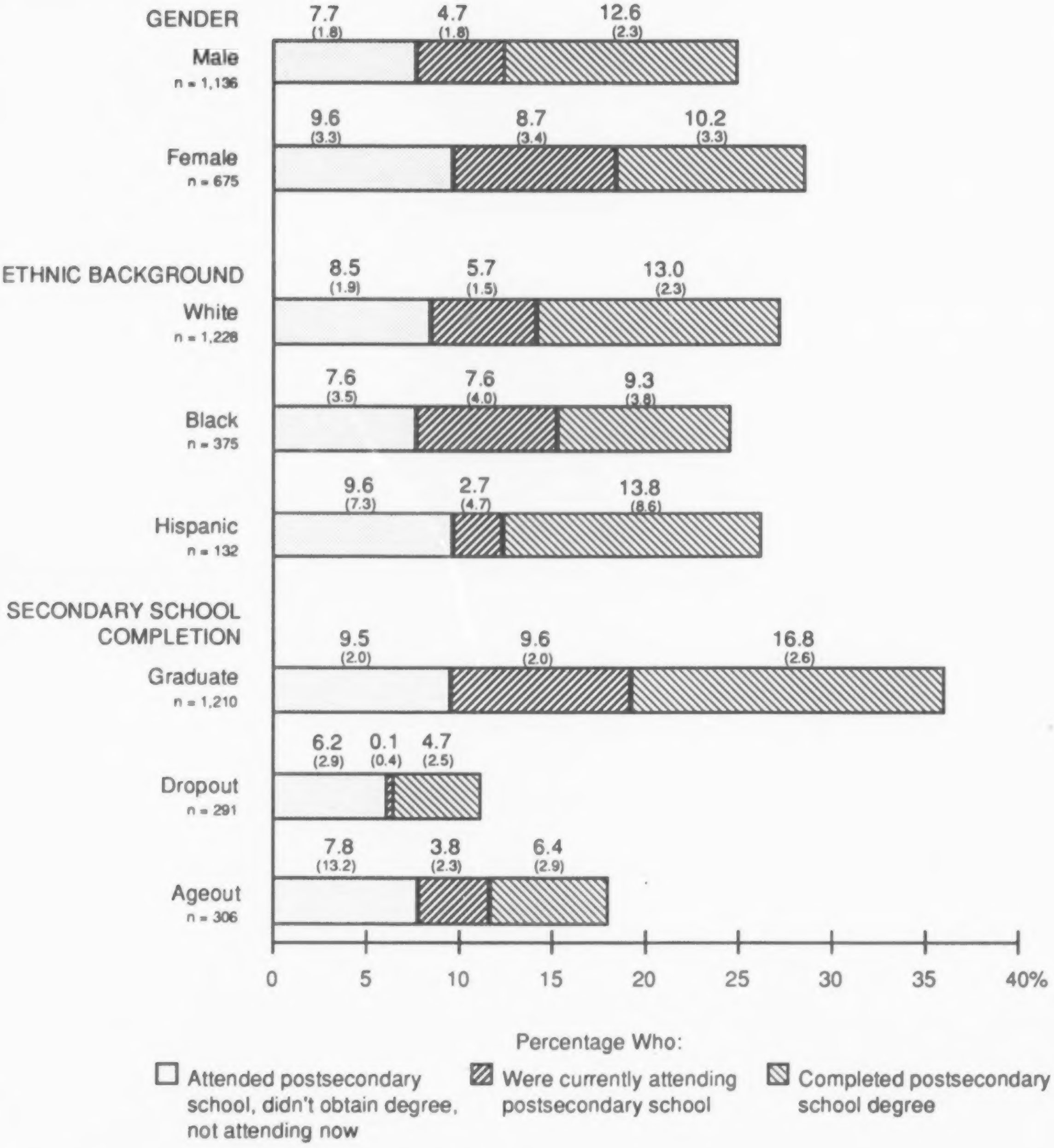
Despite the low percentage of degree completion and enrollment for youth with disabilities as a whole, youth with some disability classifications had earned degrees and/or were enrolled at about the same rates as youth in the general population. For example, about 20% of youth classified as visually impaired, deaf, or orthopedically impaired had earned degrees, and about 25% of youth classified as visually impaired, hard of hearing, or other health impaired were currently attending postsecondary schools. In contrast, almost no youth with the most severe classifications (multiply handicapped and deaf/blind) had obtained degrees or were attending postsecondary schools.

No differences in postsecondary degree completion or rates of current attendance were found for males and females, or for white, black, and Hispanic youth (Figure 3-17). However, not surprisingly, given their higher rates of postsecondary enrollment, secondary school graduates were more likely than dropouts to have completed degrees or to be currently enrolled in postsecondary schools. Whereas 17% of secondary school graduates had obtained postsecondary degrees and 10% were currently enrolled in postsecondary schools 3 to 5 years after secondary school, only 5% of dropouts had completed degrees ($p<.001$), and virtually no dropouts were currently enrolled ($p<.001$). Similarly, youth who had aged out of secondary school were less likely than graduates to have completed postsecondary degrees (6%, $p<.01$); however, the difference between the current enrollment rates of the two groups of youth is not statistically significant.

Also, not surprisingly, given enrollment rates and the time and effort necessary to complete degrees from the various types of postsecondary schools, more youth had obtained degrees from their work at postsecondary vocational schools than had obtained degrees as a result of attending 2-year colleges (Figure 3-18; 9% vs. 3%, $p<.01$). Figure 3-18 also shows that very few youth with disabilities had completed 4-year college degrees. This finding should be viewed in light of the fact that many youth had not yet been out of secondary school 4 years. Rates of current enrollment at the three types of schools were uniformly low, between 1% and 3%.

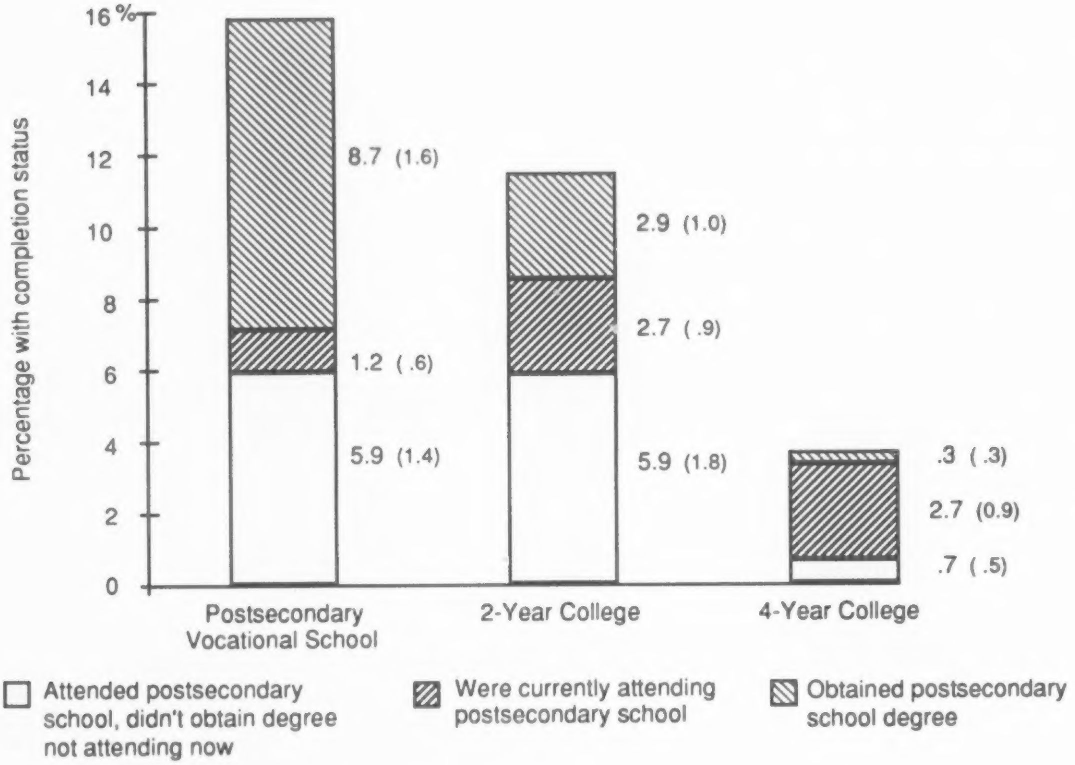
Rates of having obtained degrees from postsecondary vocational schools varied somewhat by disability category (Table 3-4); they were between 9% and 14% for youth classified as learning disabled, seriously emotionally disturbed, visually impaired, deaf, orthopedically impaired, or other health impaired. With the exception of youth classified as other health impaired (8%), however, few youth were currently enrolled in these schools.

In contrast, there was more fluctuation in both degree completion and the percentage of youth currently attending 2-year colleges. Degree completers ranged from no youth classified as multiply handicapped or deaf/blind to about 10% of youth classified as orthopedically impaired. More than 10% of youth classified as hard of hearing or orthopedically impaired were currently attending 2-year colleges. Thus, among youth classified as speech impaired, visually impaired, hard of hearing, deaf, or orthopedically impaired, the percentages of youth that had either received a degree or were currently attending 2-year college ranged between 14% and 21%.



Note: Bars represent postsecondary school students.
Standard errors are in parentheses.

FIGURE 3-17 POSTSECONDARY DEGREE COMPLETION OF YOUTH WITH DISABILITIES, BY SELECTED YOUTH CHARACTERISTICS



Standard errors are in parentheses.

FIGURE 3-18 POSTSECONDARY DEGREE COMPLETION OF YOUTH WITH DISABILITIES, BY TYPE OF POSTSECONDARY SCHOOL

Table 3-4

POSTSECONDARY DEGREE COMPLETION OF YOUTH WITH DISABILITIES, BY TYPE OF POSTSECONDARY SCHOOL AND DISABILITY CATEGORY

(Percent)

	Postsecondary Vocational School		2-Year College		4-Year College		
	Currently Attending	Obtained Degree	Currently Attending	Obtained Degree	Currently Attending	Obtained Degree	n
Disability Category							
Learning disabled	1.5 (1.1)	11.1 (2.9)	2.5 (1.5)	2.9 (1.5)	2.8 (1.5)	0.4 (0.6)	319
Emotionally disturbed	0.2 (0.6)	9.6 (3.4)	2.3 (1.7)	1.1 (1.2)	3.6 (2.2)	0 (0.0)	195
Speech impaired	0.9 (1.4)	7.9 (3.9)	7.8 (3.9)	5.5 (3.3)	9.6 (4.3)	1.6 (1.8)	128
Mentally retarded	0.5 (0.7)	3.8 (2.0)	0.7 (0.8)	2.5 (1.6)	0.0 (0.0)	0 (0.0)	265
Visually impaired	2.0 (1.7)	9.1 (3.6)	8.1 (3.4)	6.3 (3.0)	19.7 (5.0)	4.7 (2.7)	172
Hard of hearing	1.8 (2.0)	5.5 (3.5)	14.6 (5.4)	6.5 (3.8)	8.6 (4.3)	2.5 (2.4)	139
Deaf	1.6 (1.3)	13.9 (3.6)	6.3 (2.5)	10.3 (3.2)	13.0 (3.5)	0.6 (0.8)	244
Orthopedically impaired	0.4 (0.9)	9.9 (4.4)	11.5 (4.6)	9.3 (4.2)	7.2 (3.8)	0.9 (1.4)	158
Other health impaired	7.6 (0.9)	10.3 (2.3)	4.7 (1.4)	6.4 (1.3)	12.8 (1.4)	0.2 (0.5)	85
Multiply handicapped	.0 (0.0)	0 (0.0)	4.3 (3.7)	0 (0.0)	0.8 (1.6)	.0 .0	99
Deaf/blind	0 (0.0)	3.1 (4.1)	0 (0.0)	0 (0.0)	3.1 (4.1)	0 (0.0)	31

Standard errors are in parentheses.

Almost no youth had yet received 4-year college degrees, regardless of their disabilities. However, between 13% and 30% of youth classified as visually impaired, deaf, or other health impaired were currently enrolled in 4-year colleges. In contrast, rates of current enrollment were very low or nil for youth classified as learning disabled, seriously emotionally disturbed, mentally retarded, multiply handicapped, or deaf/blind.

Rates of degree completion and attendance at the three types of school did not differ for youth of different genders or ethnic backgrounds. However, there is some variation by secondary school completion status (Table 3-5). In particular, fewer than 4% of youth who had dropped out of secondary school had completed degrees at any type of postsecondary school. Similar rates were true of those who aged out (6%). However, 12% of graduates had completed postsecondary vocational degrees, and 4% had received degrees, certificates, or licenses from 2-year colleges.

Table 3-5

TYPES OF POSTSECONDARY SCHOOLS ATTENDED BY YOUTH WITH DISABILITIES, BY SELECTED CHARACTERISTICS

(Percent)

	Postsecondary Vocational School		2-Year College		4-Year College		
Youth Characteristic	Currently Attending	Obtained Degree	Currently Attending	Obtained Degree	Currently Attending	Obtained Degree	n
Gender							
Male	0.2 (0.3)	9.9 (2.0)	2.4 (1.0)	2.7 (1.1)	2.9 (1.1)	0.1 (0.2)	1,153
Female	3.4 (2.0)	6.0 (2.6)	2.7 (1.8)	3.4 (2.0)	2.4 (1.7)	0.9 (1.0)	685
Ethnic Background							
White	0.7 (0.5)	8.9 (1.9)	2.9 (1.1)	3.7 (1.3)	2.8 (1.1)	0.4 (0.5)	1,253
Black	2.9 (2.2)	8.4 (3.6)	1.8 (1.7)	.1 (1.3)	.3 (2.2)	.0 (0.2)	378
Hispanic	0.1 (0.9)	12.2 (8.1)	1.6 (3.1)	1.5 (3.0)	0.4 (1.6)	1.4 (2.9)	134
Secondary School Completion Status							
Graduate	1.7 (0.9)	12.5 (2.3)	4.1 (1.4)	3.8 (1.3)	4.6 (1.4)	0.5 (0.5)	1,233
Dropout	.0 (0.2)	3.4 (2.2)	0.1 (0.3)	1.3 (1.4)	.0 (0.2)	.0 .0	294
Ageout	1.9 (1.6)	3.4 (2.1)	1.3 (1.3)	3.0 (2.0)	0.6 (0.9)	0.0 (0.1)	307

Standard errors are in parentheses.

Summary

Our analysis of postsecondary school enrollment and experiences of young people with disabilities suggests the following responses to the questions we have addressed:

What were the trends in education after secondary school for youth with disabilities?

- When secondary school dropouts with disabilities had been out of school less than 2 years, only 13% of them had reenrolled in secondary school or equivalency programs in the preceding year. Three years later, 27% of them had enrolled in such programs at some time since leaving secondary school. Three to 5 years after secondary school, almost one-third of youth with disabilities still did not have high school diplomas or equivalency certificates.

- Two years after leaving secondary school, 14% of youth with disabilities had attended postsecondary schools during the previous year. Three years later, 27% had attended postsecondary school at some time since leaving high school.

How did the educational experiences after secondary school of youth with disabilities compare with those of youth in the general population?

- Youth with disabilities who had dropped out of high school were only about half as likely subsequently to complete high school diplomas or equivalency certificates as were youth in the general population.

- Postsecondary education was much less common for young people with disabilities than for young people without disabilities. When youth with disabilities had been out of secondary school 3 to 5 years, approximately one-fourth had attended some type of postsecondary school, compared with 68% of youth in the general population.

- The higher dropout rate of youth with disabilities only partly explains their lower likelihood of going on to postsecondary school. Even among high school graduates, postsecondary enrollment was much less common among youth with disabilities than among youth in the general population (19% vs. 78%). Graduates with disabilities were much less likely than graduates in general to have attended colleges (21% vs. 69%), but they were about equally likely to have attended postsecondary vocational schools (21% vs. 22%).

Which youth were experiencing relatively better or worse educational outcomes after secondary school?

- Generally, young men and women with disabilities and those with different ethnic backgrounds were about equally likely to have attended secondary programs and obtained equivalency certificates or diplomas and to have enrolled in and completed postsecondary school programs.

- Whereas 37% of graduates with disabilities had attended postsecondary schools when they were out of secondary school between 3 and 5 years, only 11% of dropouts and 18% of ageouts had done so.
- Enrollment in postsecondary schools differed greatly for youth in various disability categories. Some of the differences between categories is a function of differences in the rates of secondary school graduation. However, significant differences remain even between graduates in different disability categories; postsecondary enrollment rates of graduates ranged from 14% of youth classified as multiply handicapped to about 68% of youth classified as hard of hearing or other health impaired.
- Postsecondary students with different disability classifications differed in the types of postsecondary school they attended. For example, youth classified as learning disabled or seriously emotionally disturbed were less likely to attend 4-year colleges than other kinds of school. In contrast, youth classified as visually impaired were more likely to attend colleges.
- Almost three-fourths of postsecondary students with disabilities received grades; of these, more than half were reported to have received grades of "mostly B's" or better. Only 1% of students were reported to have received worse than "half C's." The grades of students at postsecondary vocational schools tended to be higher than those of college students.
- When youth were out of school 3 to 5 years, there was considerable range across the disability categories in the percentage of youth that had obtained a degree, diploma, license, or certificate resulting from postsecondary studies. For example, about one-fifth of youth classified as visually impaired or deaf had earned degrees. In contrast, no youth classified as multiply handicapped had obtained postsecondary certificates, licenses, or degrees.
- Three to 5 years after secondary school, almost 6% of youth with disabilities still were attending postsecondary schools. Youth classified as visually impaired, hard of hearing, or orthopedically impaired were particularly likely still to be attending postsecondary schools.

We have seen in this chapter that youth with disabilities continued to enroll in postsecondary schools as the years passed after leaving secondary school—about twice as many youth had been postsecondary students at some time when they had been out of high school 3 to 5 years as in the first 2 years after leaving secondary school. However, youth with disabilities were still considerably less likely than youth in general to have completed secondary school or equivalency programs once they dropped out or to have enrolled in postsecondary schools.

Although youth with disabilities might continue to participate in postsecondary education as the years go by, few were still enrolled 3 to 5 years after secondary school. Perhaps recent federal legislation to encourage development of model postsecondary education programs for youth with disabilities will generate increased interest and provide greater opportunity for youth with disabilities to enroll in postsecondary schools (P.L. 101-476, Sec. 1424a).

In the absence of such increases in postsecondary education, the overall lower level of educational attainment of youth with disabilities relative to the general population does not bode well for their long-term economic futures. Postsecondary credentials bring economic gains in the labor market. The general population of youth will continue to reap the benefits of their investment in postsecondary education, particularly when those in 4-year colleges complete their degrees and enter the workforce. Because they participated much less in postsecondary education, similar benefits will not accrue to youth with disabilities to nearly the same degree. As a result, the gap in employment and earnings between youth with disabilities and youth in the general population that is reported in Chapter 4 may widen in the future.

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4 TRENDS IN EMPLOYMENT AMONG OUT-OF-SCHOOL YOUTH WITH DISABILITIES

by Ronald D'Amico and Jose Blackorby

The accumulating body of data on the transition experiences of youth with disabilities has done much to improve our understanding of young people's early postschool work experiences. As an important part of that database, early results of the NLTS have shown, for example, that rates of competitive employment of youth no more than 2 years out of secondary school generally were low but ranged widely, from about 56% of youth with learning disabilities to 8% of those with multiple handicaps (D'Amico, 1991). The characteristics of their jobs also varied markedly, but part-time employment at low wages in unskilled jobs was common.

This evidence suggests that the "bridges" linking school and the world of work (Will, 1984) are weak for some youth with disabilities; many youth apparently leave school and have trouble in securing employment or find jobs that make too little use of their abilities and too much of their disabilities. Recent federal legislation, such as the Individuals with Disabilities Education Act (P.L. 101-476) and the Americans with Disabilities Act (P.L. 101-336), reflects an understanding of the difficulties of the transition to employment and attempt to remove obstacles to that transition, both in secondary schools and in the working world more broadly.

As sobering as the news is about youths' employment experiences shortly after secondary school, knowledge of the further development of their careers is critical for our full understanding of their transition experiences. Whether employment rates and workers' wages trend upward, remain stagnant, or worsen is of central importance in our appraisal of their prospects for reaching eventual economic self-sufficiency. The importance of these early years is particularly emphasized by a substantial body of literature investigating the establishment of careers for youth in the general population. It has concluded that work experiences in the first few years after youth leave school often are key determinants of later employment success. Prolonged early joblessness, for example, appears to cause youth to lose out in the competition for choice entry-level jobs and represents lost opportunity for gaining valuable work experience. The so-called "scarring" that results impedes a youth's ability to establish a successful career (e.g., Ellwood, 1982; Lynch, 1989). Whether similar scarring occurs for youth with disabilities has not been established empirically, but it seems likely—those who have access to jobs early in their work lives can hone their work skills, develop their work attitudes and behaviors, and demonstrate their capabilities to sometimes skeptical employers.

At the same time, this literature also has shown that the transition from school to work for youth in the general population often is chaotic, marked by frequent job hopping and periodic spells of joblessness (Freedman, 1969; Osterman, 1980). Indeed, if the bridges linking school to work are weak for youth with disabilities, they are largely absent for the rest of non-college-bound youth, a fact that has concerned policymakers interested in building a strong, competitive American workforce (e.g., W. T. Grant Foundation, 1988). But this early "floundering" (cited by Osterman, 1980) gradually gives way to stable employment relationships as youth learn about labor market opportunities, develop their work skills, and define their vocational interests. Although a cross-sectional picture of the early employment experiences of youth in the general population might show high rates of joblessness and employment at low wages, it is the trend toward steady and well-paying work that ultimately defines a successful transition.

In like fashion, we argue that it is essential to observe and document the trend in the early labor market experiences of youth with disabilities. In this chapter, we do so by considering the trends in the employment experiences of youth with disabilities in a 3-year period, from the time they had been out of secondary school less than 2 years until they had been out of school 3 to 5 years. We begin with an attempt to paint "the big picture" of the employment-related experiences of youth with disabilities. Next, we consider trends in the rates at which youth had competitive jobs. We then focus on youth who held competitive jobs and describe trends in several aspects of their work. We go beyond considering simply whether youth had found jobs and address issues of the nature or quality of those jobs: were youth moving increasingly into jobs that held promise of bringing financial independence to young workers with disabilities?

These types of analyses add much to our understanding of the participation of youth with disabilities in the competitive labor market. However, for some youth, competitive employment remains an elusive goal. Employment for some youth with disabilities is contingent on their receiving continuing support services; for others, sheltered environments offer the structure and support needed to make employment a reality.* Hence, we turn to analyses of the participation of youth with disabilities in sheltered employment. We ask how many youth with disabilities had sheltered jobs 3 to 5 years after high school. Were sheltered employment placements stepping stones to later competitive work—did youth who had paid sheltered jobs when they were out of school less than 2 years move from sheltered settings to nonsheltered employment by the time they had been out of school 3 to 5 years?

Finally, we consider youth who were not employed when they had been out of school 3 to 5 years. Were they looking for work? What were they doing to find jobs? Did the methods of job search differ between employed and nonemployed youth? What reasons did nonemployed youth give for not looking for work—did they cite the work limitations associated with their disability, the lack of available jobs, family responsibilities, or other reasons? This broad array of questions is considered in the following sections.

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* Because of measurement problems relating to parental or youth reports, the NLTS does not present data on supported employment. Youth in supported employment programs would be included in our tabulations of youth with competitive jobs.

The Big Picture

We begin by taking a broad view of youths' employment-related experiences up to 2 years after secondary school and then 3 years later.* Figure 4-1 illustrates the degree to which youth were working in competitive jobs, whether those jobs were full-time or part-time, and whether youth were involved in paid or unpaid sheltered employment or were not employed. It is important for the reader to be aware of two issues. First, these data relate to employment status of youth with disabilities independent of other valuable activities in which youth may have been engaged. For example, some youth who were not employed may well have been attending postsecondary schooling. The NLTS addresses this general issue of "engagement in productive activity" elsewhere; interested readers are referred to Appendix D. Second, there are some differences between the 1987 and 1990 surveys that make the graphs in Figure 4-1 slightly distinct from one another. For example, the 1990 survey asked several questions regarding the practice of job search, producing important data for which the NLTS has no 1987 complement.

Figure 4-1 demonstrates a number of important changes in aggregate employment over the 3-year period between 1987 and 1990. First, many more youth with disabilities had found competitive jobs when they had been out of school 3 to 5 years than when they had been out of school up to 2 years. Those jobs also were largely full-time positions. The degree of sheltered employment remained relatively stable over the 3-year period. The substantial increase in competitive employment naturally coincides with a decrease in nonemployment. However, this generally positive trend is contrasted by the finding that nearly one in five youth with disabilities out of school 3 to 5 years were not employed and were not looking for work. Figure 4-1, then, alludes to the diversity and complexity of the employment experiences of young adults with disabilities, which we explore in greater detail in the remainder of this chapter.

Trends in Competitive Employment

Our analysis compares the extent to which youth had competitive jobs when they had been out of secondary school less than 2 years and 3 years later. To address this issue, parents were asked when youth had been out of secondary school less than 2 years (1987) whether their child "now does any work for which he/she gets paid." If so, they were asked to identify the number of hours the youth worked per week, at what type of job, for what pay, and whether the work was done "at a sheltered workshop, that is a place where most of the other workers are disabled." Virtually identical questions were included in the interview conducted when

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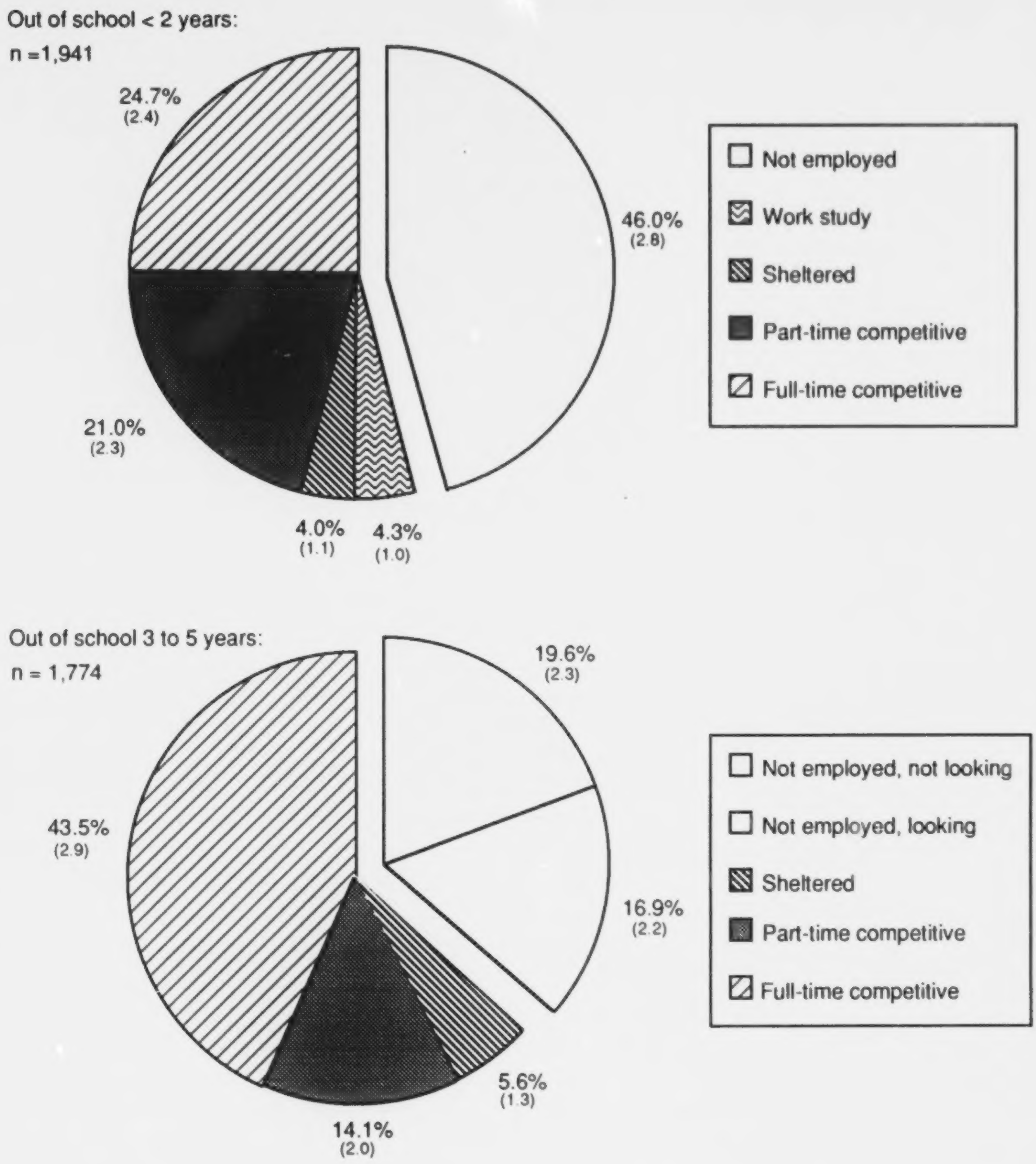
* The U.S. economy slipped into recession toward the end of 1990. Although NLTS data for youth out of school 3 to 5 years were collected before the official onset of the recession, it is possible that generally worsening economic conditions influenced the employment experiences of youth with disabilities at the second time point included in our longitudinal analysis. Readers are encouraged to consider the discussion of period effects included in Chapter 2, which reports exploratory analyses that fail to reveal a significant negative influence of the recession at the time NLTS data were collected.



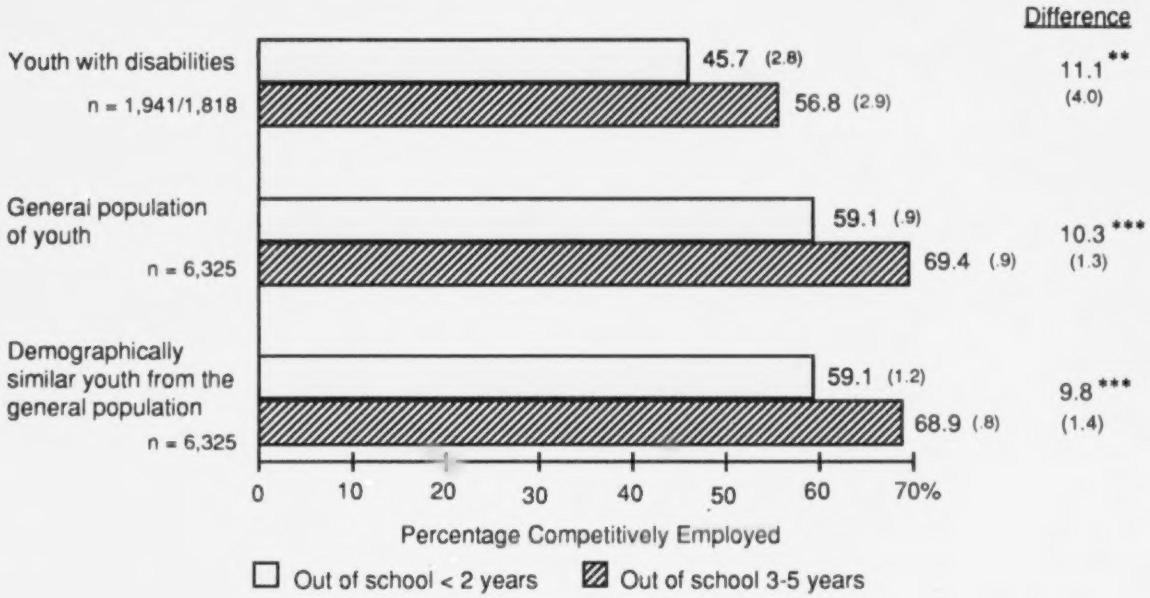
Standard errors are in parentheses.

Notes: The surveys in 1987 and 1990 asked somewhat different questions, and therefore produced data that are not congruous with one another (e.g., not employed and not looking in 1990). Note the categories "sheltered" and "work study" include youth who were involved in those activities part-time or full-time. These data are disaggregated in later sections.

FIGURE 4-1 OVERALL EMPLOYMENT PICTURE FOR YOUTH WITH DISABILITIES OUT OF SCHOOL LESS THAN 2 YEARS AND 3 YEARS LATER

youth had been out of school 3 to 5 years (1990). When parents answered that youth were currently working, but not at a place with predominantly disabled workers, the youths' jobs were considered competitive jobs, which are the focus of this section.*

Many more youth with disabilities were successful in locating competitive employment 3 to 5 years after high school than 3 years earlier. Competitive employment rose by 11 percentage points—a significant gain, from 46% to 58% (p<.01)—over the 3-year period. Figure 4-2 compares this gain with that achieved by youth in the general population measured by the NLSY and by a comparison group from the general population similar to youth with disabilities in their distribution of gender, ethnicity, and head of household's education level.** We



Standard errors are in parentheses.

** p<.01; ***p<.001

FIGURE 4-2 TRENDS IN RATES OF COMPETITIVE EMPLOYMENT FOR YOUTH WITH DISABILITIES AND THE GENERAL POPULATION OF YOUTH

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[*] Included in rates of competitive employment are fewer than 1% of youth whose jobs may be more accurately considered paid supported employment. Because the 1987 interview did not measure the extent of supported employment, youth with these jobs cannot be removed from the 1987 competitive employment rates. They are included in the 1990 rates for comparability.

[**] These data reflect the employment status of young adults independent of other activities in which they may have been involved (e.g., postsecondary schooling). That is, some youth who were not employed may have been involved in other productive activities (see Appendix D).

observe very similar rates of increase in the three groups. The 11% increase among youth with disabilities was not significantly greater than the 10% increases observed in the general-population groups. Thus, despite a substantial gain, a gap in employment remained: the likelihood of competitive employment for youth with disabilities was significantly lower than for the general population, both less than 2 years (46% vs. 59%, p<.001) and 3 to 5 years out of school (57% vs. 69%, p<.001). A gap of similar magnitude was found between youth with disabilities and 1980 sophomores in the High School and Beyond study who had been out of school 4 years (57% vs. 68%, p<.001).

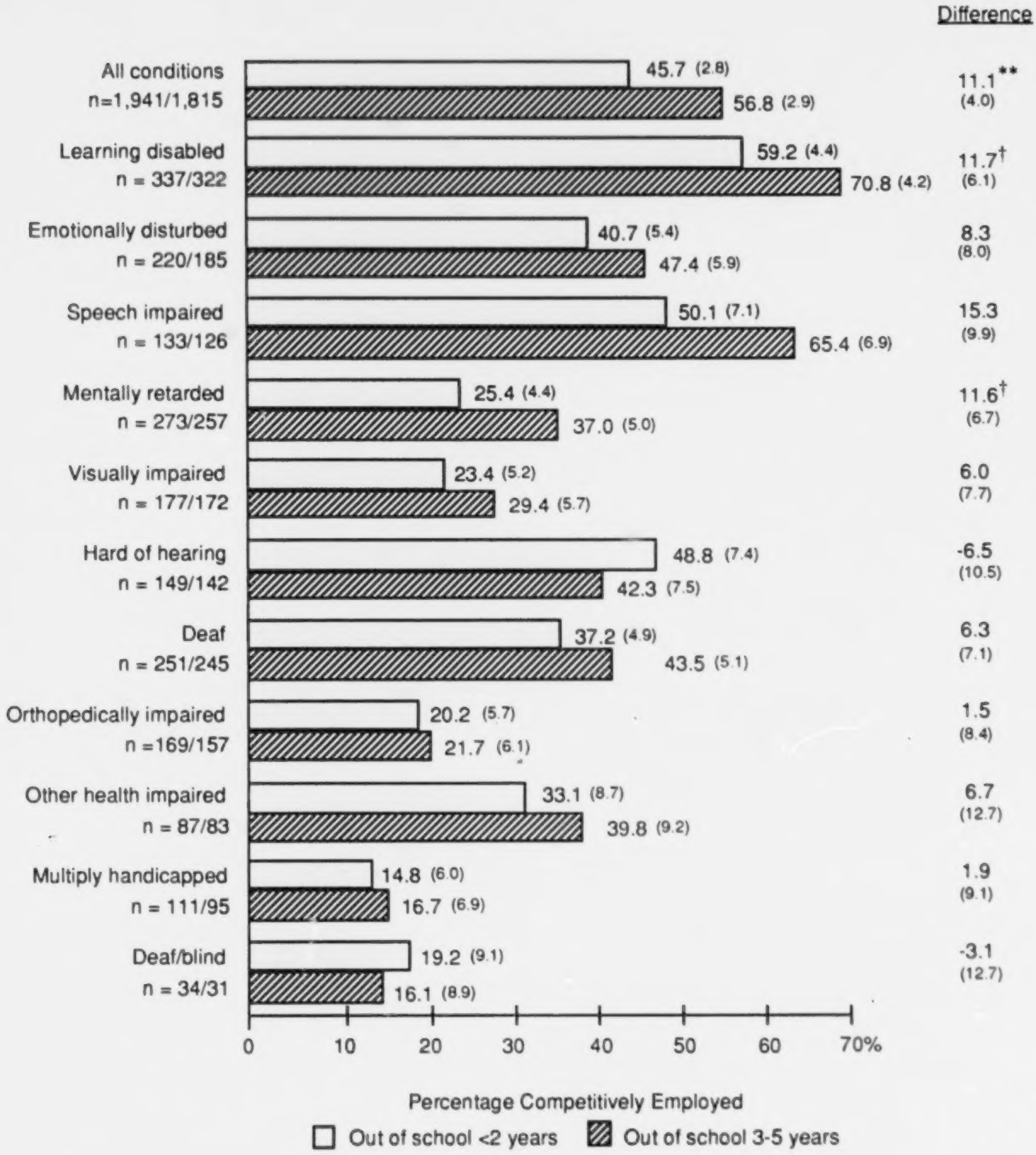
Variations in Employment Trends by Disability

Figure 4-3 reports the trend in rates of competitive employment for youth in each of the disability categories. It demonstrates that the gap between youth with disabilities and the general population of youth was much less apparent for youth with some kinds of disabilities. Increases in the numbers of employed youth were pronounced for those classified as having learning disabilities or mental retardation (12 percentage points, p<.10). Youth classified as having speech impairments also reported a substantial 15 percentage point increase, although this fails to attain statistical significance at conventional levels. These three categories of youth constitute more than 80% of youth with disabilities who had been out of secondary school 3 to 5 years. With these gains, youth with learning disabilities or speech impairments were employed at rates virtually equivalent to the general population of youth 3 to 5 years after high school (70% and 65% vs. 69% for youth in general).

However, youth in most other disability categories made much less progress in the labor market. Although the pattern for youth in nearly all of the remaining categories is for somewhat more to be employed 3 to 5 years after school than earlier (those classified as hard of hearing or deaf/blind are the exceptions), the gains generally were no more than a few percentage points, and none attained statistical significance. In fact, the employment picture for those with the lowest employment rates in the early years after high school remained most stable. For example, 3 to 5 years after secondary school, only 17% of youth classified as multiply handicapped reported being competitively employed, and 22% and 29% of their peers with orthopedic or visual impairments were competitively employed, respectively. Although these figures indicate progress for some youth, they nonetheless suggest that substantial numbers of other youth had not yet experienced success in the labor market.

Variations in Employment Trends by Other Youth Characteristics

Beyond differences in youth related to the nature of their disabilities, other youth characteristics also relate to variations in employment experiences. For example, among youth who had been out of school less than 2 years, males were more likely to be competitively employed than females, whites more likely than minorities, and high school graduates more likely than either ageouts or dropouts to be competitively employed



Standard errors are in parentheses.

† $p<.10$, ** $p<.01$

FIGURE 4-3 TRENDS IN COMPETITIVE EMPLOYMENT, BY DISABILITY CATEGORY

(D'Amico, 1991). These results are entirely in keeping with the conceptual model of youth attainments guiding the NLTS (Wagner, 1991), which argues from both theoretical and empirical grounds that disability-related and demographic factors (among other things) could be expected to affect youth attainments significantly.

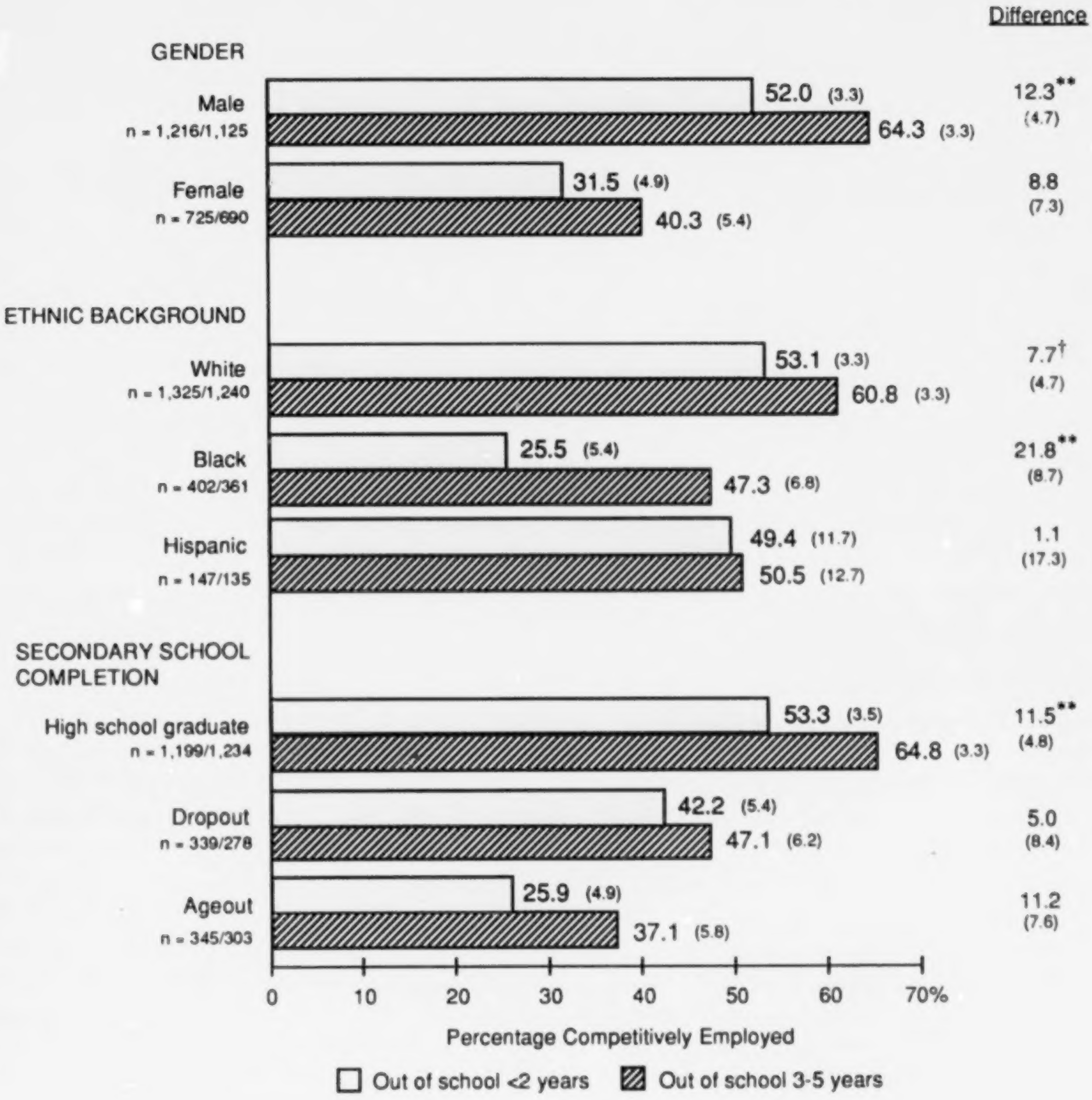
But are these same characteristics related to the trends in employment over time? Specifically, did males, whites, and graduates retain their advantage in access to jobs or increase it over time? Or did members of groups who initially were at a disadvantage begin to narrow the gap? Figure 4-4 addresses this issue by showing the trend in employment rates for youth with disabilities by each of these youth characteristics.

Note that males found increased success over the 3 years, evidenced by a significant 12 percentage point increase in employment (52% to 64%, $p<.01$), while the 9 percentage point increase for females failed to attain statistical significance. These relative increases for males and females with disabilities are almost opposite of those observed in the general population, in which men showed a 9 percentage point gain in employment rates, compared with 12% for young women (NLSY). Hence, although young women in the general population were closing the gap in employment between the sexes, the gap continued to widen among youth with disabilities.

Blacks with disabilities were nearly twice as likely to be employed in 1990 as they were in 1987, as the numbers of such employed youth rose from 26% to 47% ($p < .01$). The increase in the number of whites finding employment was much smaller (53% to 61%, $p < .10$), and quite similar to the 10 point increase noted for whites in the general population, as measured in the NLSY. However, despite something of an ethnic convergence, whites with disabilities still had greater success in employment than their black peers 3 to 5 years after secondary school, shown by a 13 percentage point difference between the two groups (61% vs. 47%, $p<.10$). Meanwhile, Hispanics experienced similar outcomes at both points in time, as their rate of competitive employment 3 to 5 years after high school was nearly identical to their rate 3 years earlier. Thus, although Hispanics and whites experienced the labor market similarly in the early postschool years, a divergence appears to have occurred thereafter.

Finally, completion of secondary school appears to pay off for high school graduates. They show a 12 percentage point increase, a significant change over the 3-year period (65% vs. 53%, $p<.05$). Although positive in direction, the gains among dropouts and ageouts were not statistically significant. Three to 5 years after high school, graduates were significantly more likely to be employed than peers who had either dropped out (65% vs. 47%, $p<.05$) or aged out (65% vs. 37%, $p<.001$). Although this advantage of graduates over dropouts is similar to that in the general population, the gap separating graduates and dropouts in the general population actually decreased over the same period of time.

Chapter 1 demonstrated that demographic characteristics of youth are interrelated with each other and with youths' disability classification. This correlation necessarily confounds our interpretation of the results in Figure 4-4. For example, males are disproportionately



Standard errors are in parentheses.

† p<.10, ** p<.01

FIGURE 4-4 TRENDS IN COMPETITIVE PAID EMPLOYMENT, BY YOUTH CHARACTERISTICS

represented among youth classified with learning disabilities and serious emotional disturbances, while youth classified with visual, orthopedic, or hearing impairments were more likely than youth in most other categories to have graduated from secondary school. For this reason, differences in postschool outcomes for youth with different demographic or disability characteristics result at least in part from the fact that the various demographic groups are distributed differently across the disability categories, and vice versa. For example, the NLTS found in earlier work that a substantial part of the gender difference in employment rates shortly after high school disappeared when youths' disability classification and other background factors were taken into account (D'Amico, 1991).

To disentangle the relationships between background and disability characteristics, Table 4-1 reports percentages of employed youth 3 to 5 years after secondary school by gender, ethnic background, and school completion status within disability categories. Although sample sizes in some of these cells are too small to draw firm inferences, the pattern of results generally confirms earlier findings (D'Amico, 1991). In particular, among youth who shared the same disability classification, males generally reported higher employment rates than females, e.g., among those classified as learning disabled (77% vs. 52%, $p<.05$), seriously emotionally disturbed (57% vs. 19%, $p<.05$), hard of hearing (62% vs. 27%, $p<.05$), or deaf (55% vs. 29%, $p<.05$). Although differences between whites and minorities were generally smaller, whites consistently had the advantage and significantly so among those classified as seriously emotionally disturbed (56% vs. 30%, $p<.10$). The pattern is similar across mode of exit from high school. Graduates were more likely to be employed than both dropouts and ageouts among youth in most of the disability categories. These differences were significant among youth with learning disabilities ($p<.10$), emotional disturbances ($p<.10$) in the case of dropouts, and than peers with visual impairments ($p<.05$) in the case of ageouts.

Finally, it is important to note that the trend toward greater employment is robust. For example, we questioned whether youth moving into and out of postsecondary schools might be influencing the rates of employment. If postsecondary school students were less likely to be employed than other youth, and students were enrolled at different rates in the two time periods studied, employment rates would be affected. However, even when our employment analyses are limited to youth not attending postsecondary schools at all since high school (analyses reported in Appendix D, Figure D4-1), employment trends are essentially the same. It is interesting to note, however, that employment among students not attending postsecondary schools was somewhat less common, suggesting that the most employable youth may have been those who chose the option of postsecondary schooling in combination with employment.

Table 4-1

VARIATIONS IN RATES OF COMPETITIVE EMPLOYMENT WHEN YOUTH WITH DISABILITIES HAD BEEN OUT OF SECONDARY SCHOOL 3 TO 5 YEARS, WITHIN DISABILITY CATEGORY

(Percentage Competitively Employed)

Youth Characteristics	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Health Impaired	Multiply Handicapped
Gender										
Male	76.9	57.1	63.6	41.9	35.6	61.8	54.5	19.8	28.6	16.3
	(4.2)	(6.5)	(9.6)	(6.9)	(7.2)	(9.6)	(7.2)	(7.4)	(11.7)	(8.9)
n	255	142	76	147	100	75	134	80	43	58
Female	52.4	18.9	68.3	29.7	22.3	26.7	29.3	23.4	51.7	17.5
	(10.6)	(10.2)	(9.9)	(7.1)	(8.5)	(9.9)	(6.6)	(9.6)	(13.6)	(10.6)
n	67	43	50	110	72	67	111	77	40	37
Ethnic background										
White	74.0	55.7	71.3	37.1	34.0	44.4	47.4	25.2	41.4	17.3
	(4.6)	(6.3)	(8.6)	(5.8)	(7.8)	(10.2)	(6.9)	(8.9)	(11.9)	(8.6)
n	243	149	80	185	116	88	146	97	55	64
Nonwhite	61.0	30.5	55.5	36.5	23.6	38.4	37.1	15.8	—	—
	(9.3)	(12.2)	(11.3)	(9.3)	(8.1)	(10.7)	(6.8)	(7.5)	—	—
n	75	35	45	70	55	52	98	58	27	29
Secondary school completion status										
Graduate	77.2	61	73.1	42.9	35.6	45.2	39.9	23.9	33.4	22.2
	(4.3)	(7.2)	(7.1)	(6.3)	(6.7)	(8.9)	(5.7)	(7.5)	(9.9)	(12.6)
n	222	106	85	152	135	112	187	118	59	40
Dropout	57.2	39.5	—	32.2	—	—	—	—		
	(9.8)	(9.3)	—	(11.1)	—	—	—	—		
n	65	64	23	38	12	17	17	15		
Ageout	75.6	—	—	27.9	—	—	59.3	—		10.3
	(10.6)	—	—	(8.1)	—	—	(12.0)	—		(8.3)
n	35	15	17	67	25	13	31	24		40

Standard errors are in parentheses.

Fluctuations in Employment over Time

The employment rates and patterns of employment described thus far detail the aggregate rates at which youth were employed in paid competitive jobs when they had been out of school less than 2 years and then 3 years later. But the actual movement of youth into and out of the labor force doubtless is more complex than these percentages indicate. Those employed at both times, for example, may not have been steadily employed for 3 years, but may have changed jobs any number of times and/or suffered long or periodic spells of joblessness.

Conversely, those employed at neither point might have been employed at some time, even for many weeks, since they left high school.

The NLTS found it impractical to collect complete work histories for youth, so characterizing their employment experiences according to the number of jobs that were held and total number of weeks employed is not possible. However, we have two alternative approaches to illuminating fluctuations in employment.

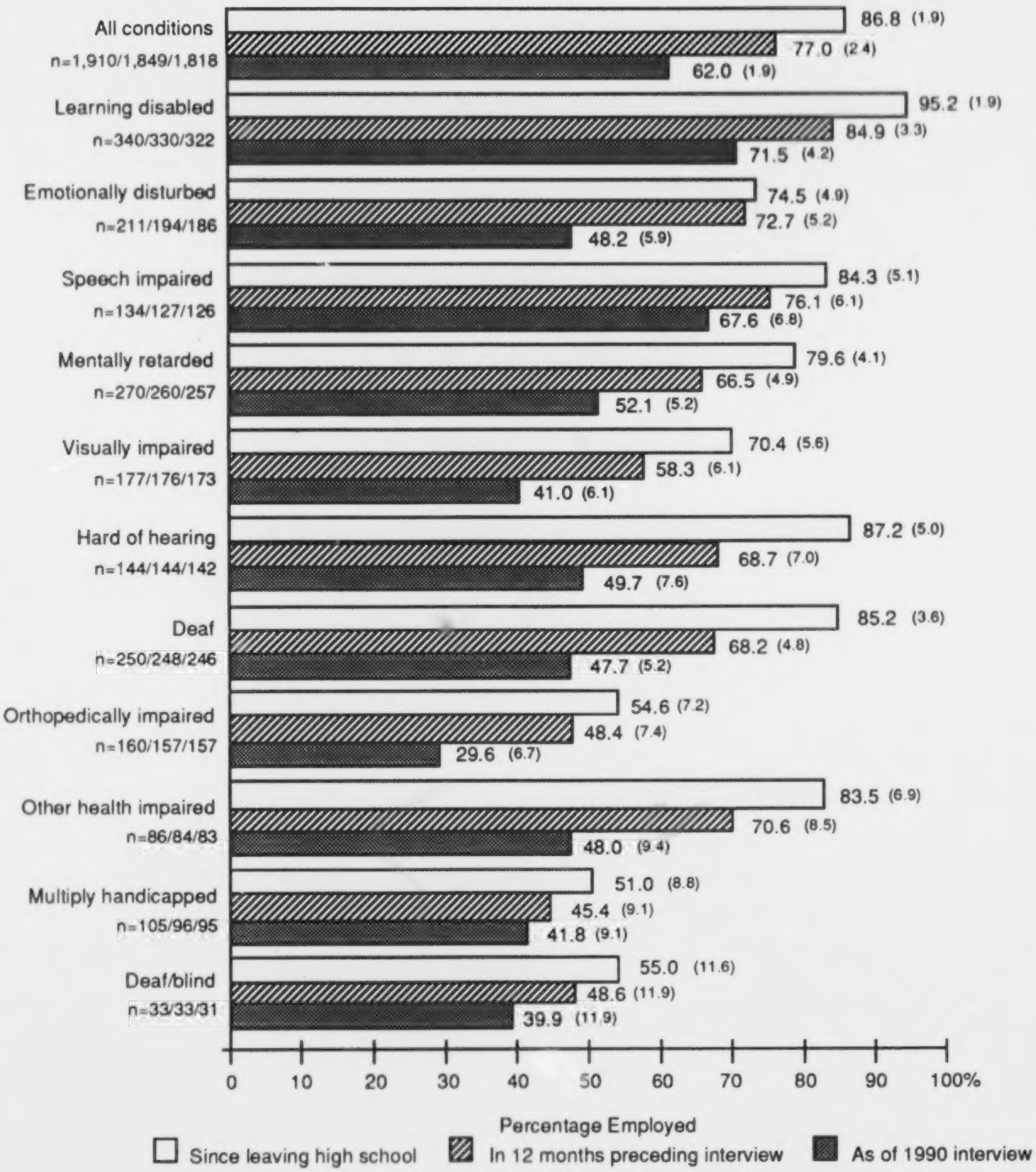
First, we examine the cumulative employment rate after high school—the percentage of youth ever employed since leaving secondary school—and contrast it with the percentage of youth employed in the 1-year period preceding the 1990 interview and with the percentage employed on the interview date. Movement in and out of jobs would be suggested by higher rates employed over the longer time periods than currently, suggesting the prevalence of youth leaving jobs without finding later employment. Our second approach to understanding fluctuations in employment is to contrast the status of youth at the two time points measured in the NLTS, considering the extent to which youth were employed at both times and at neither time, or shifted between employment and nonemployment.

Youth Employed at Some Time Since High School

Figure 4-5 gives a further picture of patterns of employment in the postschool years by contrasting the rate at which youth had been employed at all since high school with employment rates in the year preceding the 1990 interview and with current employment when youth were 3 to 5 years out of high school. We find that most youth (87%) with disabilities had been employed at some time since high school, ranging from 95% of youth with learning disabilities to 51% of those with multiple impairments. Impressively, this percentage exceeded 70% for youth in all categories except those with orthopedic impairments or multiple handicaps, and those who were deaf/blind, for whom the rates were just over 50%. Thus, sizable majorities of youth in nearly all categories had held paid jobs since leaving school.

Moreover, a majority (77%) of youth with disabilities had a competitive job within the year preceding the 1990 survey, which constitutes almost 90% of those who had ever had a job since high school. Thus, relatively few youth were employed in the few years just after they left school but were unable to find employment again, suggesting that once youth broke into the labor market, they generally were able to remain employed, although not necessarily at the same jobs.

On the other hand, the difference between those currently employed in 1990 and those employed within the preceding year is somewhat greater (62% vs. 77%, $p<.001$). This difference represents youth who had a job recently but either lost it or quit without finding employment elsewhere. However, the youth currently working in 1990 represent the majority both of youth who were employed in the preceding year and of those who had worked at all since high school, suggesting that many youth maintained fairly stable employment or, at least,



Standard errors are in parentheses.

FIGURE 4-5 YOUTH EVER EMPLOYED SINCE HIGH SCHOOL, EMPLOYED AS OF THE 1990 INTERVIEW, AND EMPLOYED IN THE YEAR PRECEDING THE INTERVIEW

if they left one job were able to find a new job. Among those with serious emotional disturbances or orthopedic impairments, in contrast, many fewer youth were currently employed than had been working in the preceding year (48% vs. 73%, p<.01), suggesting that job turnover and/or longer spells of joblessness were more common for those youth.

Patterns of Employment Over Time

The aggregate views of employment we have considered thus far may obscure the movement of individual youth into and out of the labor market. Indeed, the rate of employment could remain largely unchanged when measured at two points in time, even though different youth were employed at each time. In an effort to uncover these patterns of movement and reveal something further about the stability of employment relationships, Table 4-2 shows the percentage of youth who had paid competitive jobs both when they had been out of school less than 2 years and 3 years later, at neither time, or at one but not the other.

One-third of youth with disabilities were employed at both time points, a rate that ranged from 47% of youth with learning disabilities to 9% of those with multiple handicaps (p<.001). In fact, youth with learning disabilities were significantly more likely to have been employed at both times than were youth in nearly every other disability category (p<.10, when compared with youth in every other category except those with speech impairments).

Overall, about as many youth had a different employment status at the two time points as were consistently employed. But, as might be expected given the overall upward trend in employment rates, more youth found jobs than lost them (23% vs. 13%, p<.01). Again, the patterns varied greatly between disability categories. Among those with mental retardation or learning disabilities, for example, almost twice as many youth became employed as lost employment. However, for the remaining categories, youth were about equally likely to have experienced change in either direction. This finding is consistent with the fairly flat trends in employment rates for many categories of youth described in Figure 4-3 and suggests that little improvement in the employment situations of these youth occurred over time.

We gain further insight into employment relationships by examining the stability of nonemployment, which is very high for youth in some disability categories. In fact, nearly equal proportions of youth were not employed at both points in time as were employed at both points. Although 30% of youth overall were not employed at either time period we examined, this rate ranged from 18% of those with learning disabilities to almost three-fourths of youth who had orthopedic or multiple impairments or who were deaf/blind (p<.001).

Table 4-2

PATTERNS OF EMPLOYMENT OVER TIME OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

	Percentage of Youth:				
Disability Category	Not Employed at Either Time	Lost Employment	Became Employed	Employed at Both Times	n
All conditions	30.4 (2.7)	13.3 (2.0)	22.9 (2.5)	33.4 (2.8)	1,781
Learning disabled	17.5 (3.6)	12.4 (3.1)	22.9 (3.9)	47.2 (4.7)	312
Emotionally disturbed	32.5 (5.5)	19.0 (4.6)	24.9 (5.1)	23.7 (5.0)	185
Speech impaired	21.2 (6.0)	15.2 (5.3)	27.4 (6.6)	36.2 (7.1)	123
Mentally retarded	50.3 (5.3)	12.9 (3.5)	23.9 (4.5)	12.9 (3.5)	251
Visually impaired	61.5 (6.1)	8.8 (3.6)	15.3 (4.5)	14.4 (4.4)	169
Hard of hearing	39.8 (7.5)	18.5 (5.9)	10.6 (4.7)	31.1 (7.1)	140
Deaf	41.4 (5.1)	14.2 (3.6)	21.6 (4.3)	22.8 (4.4)	243
Orthopedically impaired	73.3 (6.6)	5.6 (3.5)	7.4 (3.9)	13.6 (5.1)	153
Other health impaired	47.2 (9.6)	13.9 (6.7)	19.7 (7.7)	19.3 (7.6)	80
Multiply handicapped	73.0 (8.2)	10.2 (5.6)	8.3 (5.1)	8.5 (5.2)	94
Deaf/blind	72.7 (10.8)	11.2 (7.6)	5.5 (5.5)	10.5 (7.4)	31

Not employed at either time = not employed at interview point in 1987 or 1990.
Lost employment = employed at interview point in 1987 but not in 1990.
Became employed = not employed at interview point in 1987 but employed in 1990.
Employed at both times = employed at interview points in 1987 and 1990.

Standard errors are in parentheses.

Striking gender differences are evident when we examine variations in patterns of employment over time (Table 4-3). Males were much more likely than females to be employed in paid competitive jobs at both times (39% vs. 20%, $p<.01$) and much less likely to be employed at neither time (22% vs. 48%, $p < .01$). Males also were more likely to have found jobs than to have lost them (24% found vs. 14% lost, $p < .01$), while females experienced each of these events about equally.

Table 4-3

PATTERNS OF EMPLOYMENT OVER TIME, BY CHARACTERISTICS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

	Percentage of Youth:				
Disability Category	Not Employed at Either Time	Lost Employment	Became Employed	Employed at Both Times	n
Gender					
Male	22.4 (2.9)	13.7 (2.4)	24.5 (3.0)	39.4 (3.4)	1,102
Female	47.6 (5.5)	12.4 (3.6)	19.6 (4.4)	20.5 (4.5)	679
Ethnic background					
White	26.5 (3.0)	13.0 (2.3)	20.6 (2.8)	40.0 (3.4)	1,228
Black	38.6 (6.6)	13.6 (4.7)	33.6 (6.4)	14.2 (4.8)	356
Hispanic	31.1 (11.8)	18.3 (9.9)	18.6 (9.9)	31.9 (11.9)	134
Other	55.7 (16.8)	6.5 (8.3)	2.1 (4.8)	35.7 (16.2)	59
Secondary school completion status					
Graduate	23.7 (3.0)	12.3 (2.3)	24.8 (3.0)	39.1 (3.4)	1,210
Dropout	34.4 (6.1)	17.7 (4.9)	20.9 (5.2)	27.0 (5.7)	262
Ageout	58.0 (6.0)	4.3 (2.5)	13.9 (4.2)	23.9 (5.2)	296

Not employed at either time = not employed at interview point in 1987 or 1990.
Lost employment = employed at interview point in 1987 but not in 1990.
Became employed = not employed at interview point in 1987 but employed in 1990.
Employed at both times = employed at interview points in 1987 and 1990.

Standard errors are in parentheses.

Differences between ethnic groups also are apparent. Whites were more likely to be employed at both time points than at neither of them (40% vs. 26%, p<.01), while blacks show the opposite pattern (14% vs. 39%, p<.01). In keeping with the trend in employment rates already observed in Figure 4-4, blacks—alone among the ethnic groups—were much more likely to have found jobs than to have lost them (34% vs. 14%, p<.05).

Finally, high school graduates were both significantly more likely to be employed at both points in time than at neither (39% vs. 24%, p<.001) and more likely to have found jobs than lost them (25% vs. 12%, p<.01). Dropouts, by contrast, were about equally likely to be employed or jobless at both points in time. They also were just as apt to lose employment as to obtain it. Interestingly, ageouts were the most likely to be unemployed at both points in time (58% vs. 24% of graduates, p<.05), but also were significantly more likely to have found work than to have lost jobs (14% vs. 4%, p<.05).

Job Characteristics of Employed Youth with Disabilities

Although finding and keeping a job are worthwhile goals in themselves, not all jobs are created equal. Some earn wages that sustain financial independence, involve occupations with prospects for advancement, and bring workers a sense of satisfaction from their labor. Others, particularly entry-level jobs, may bring low wages, provide little satisfaction, and/or hold little prospect for advancement. What kinds of jobs did youth with disabilities have, and how did the nature of those jobs change as time passed after high school? Several dimensions of jobs held by youth with disabilities are described below, including job intensity (hours worked), occupations, wages and benefits, and workers' satisfaction. Readers are cautioned that information regarding job characteristics must be understood in conjunction with the overall employment picture. For example, similar wage levels between graduates and dropouts from high school should be interpreted in light of the fact that many more graduates than dropouts were employed.

Intensity of Employment: Hours Worked Per Week

A key aspect of employment is its intensity, particularly whether youth work full- or part-time. Past research has shown that many youth with disabilities who find jobs are able to work only part-time, seriously limiting their ability to attain economic self-sufficiency (e.g., Siegel, 1987). Indeed, earlier results from the NLTS (D'Amico, 1991) showed that nearly half of youth out of school less than 2 years who had competitive jobs worked only part-time (i.e., fewer than 35 hours per week, by the Bureau of Labor Statistics definition), a rate that varied only slightly among the various disability categories. How had the intensity of employment changed in the subsequent 3 years?

Table 4-4 addresses this issue by showing the percentages of youth who were not employed, employed part-time, and employed full-time in paid competitive jobs both up to 2 years out of school and 3 years later, by disability category. As mentioned earlier, about 45% of youth with disabilities were employed at the first time point. One in five youth (21%) were employed part-time, and 25% were employed full-time.

By 1990, matters had changed markedly. Fewer youth with disabilities were not employed, and more had secured full-time jobs. Whereas about 25% of employed youth were working full-time when out of school less than 2 years, 3 years later the percentage had increased to 43% ($p<.001$); that is, more than three-fourths (76%) of employed youth were working full-time. The pattern among those employed was decisively toward full-time employment for youth in all categories; in all categories, the percentage employed part-time either stayed constant or declined, while the percentage employed full-time increased, significantly so in the case of youth classified as having learning disabilities, emotional disturbances, speech impairments, and mental retardation.

This trend toward full-time employment for youth with disabilities resembles and, in some cases, is more dramatic than that in the general population as measured by the NLSY, where full-time employment increased from 30% to 46% over the 3-year period ($p<.001$). Interestingly, the proportion of youth with disabilities and youth in general who were able to find full-time employment did not differ significantly from one another. The gap in overall employment between these two groups appears to be a function of greater numbers of jobless youth and fewer youth with disabilities employed part-time.

Table 4-5 shows important differences in these shifts for youth with different demographic characteristics. When out of school less than 2 years, males were almost as likely to be employed part-time as full-time (24% vs. 28%), but 3 years later, males were more than 4 times as likely to be full-time workers as part-time workers (52% vs. 12%, $p<.001$). These gains are similar to those made by males in the general population, who experienced significant increases in full-time employment (36% to 52%, $p<.001$).

Among young women with disabilities, no such dramatic shift is evident—the extent of full-time employment 3 to 5 years out of school was about what it had been earlier (22% vs. 17%, not a significant difference). This stands in contrast to females in the general population, who showed a shift toward greater full-time employment (24% to 40%, $p<.001$) and decreases both in part-time employment (30% to 26%, $p<.01$) and nonemployment (46% to 34%, $p<.001$).

Among whites, overall joblessness did not decline significantly over the 3 years, but part-time work became less common and full-time employment increased significantly (29% to 47%, $p<.001$), figures virtually identical to those in the general population (NLSY). Among blacks, in contrast, rates of joblessness declined significantly (75% to 53%, $p<.05$), and the shift toward full-time employment also was pronounced (12% to 30%, $p<.05$).

Table 4-4

PART-TIME AND FULL-TIME COMPETITIVE PAID EMPLOYMENT OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

	Percentage of Youth, by Competitive Employment Status						Difference in Employment Rates Between <2 and 3-5 Years after High School			
	Out of School < 2 Years:			Out of School 3-5 Years						
Primary Disability Category	Not Employed	Part-Time	Full-Time	Not Employed	Part-Time	Full-Time	Not Employed	Part-Time	Full-Time	n at 2 Time Points
All conditions	54.3 (2.8)	21.0 (2.3)	24.7 (2.4)	43.2 (2.9)	13.9 (2.0)	42.9 (2.9)	-11.1** (4.0)	-7.1* (3.0)	18.2*** (3.8)	1,941/1,815
Learning disabled	40.8 (4.4)	23.5 (3.8)	35.7 (4.3)	29.2 (4.2)	14.1 (3.2)	56.7 (4.6)	-11.6† (6.1)	-9.4† (5.0)	21.0*** (6.3)	337/322
Emotionally disturbed	59.3 (5.4)	26.2 (4.8)	14.5 (3.9)	52.6 (5.9)	12.4 (3.9)	35.0 (5.6)	-6.7 (8.0)	-13.8* (6.2)	20.5** (6.8)	220/185
Speech impaired	49.9 (7.1)	35.9 (6.8)	14.2 (4.9)	34.6 (6.9)	27.9 (6.5)	37.5 (7.0)	-15.3 (9.9)	14.8* (7.3)	25.2** (7.7)	133/126
Mentally retarded	74.6 (4.4)	13.1 (3.4)	12.3 (3.3)	63.0 (5.0)	13.6 (3.6)	23.4 (4.4)	-11.6† (6.7)	.5 (5.0)	11.1* (5.5)	273/257
Visually impaired	76.6 (5.2)	12.9 (4.1)	10.4 (3.7)	70.6 (5.7)	12.4 (4.1)	17.0 (4.7)	-6.0 (7.7)	-.5 (5.8)	6.6 (6.0)	177/172
Hard of hearing	51.2 (7.4)	26.1 (6.5)	22.7 (6.2)	57.7 (7.5)	8.3 (4.2)	34.0 (7.2)	6.5 (10.5)	-17.8* (7.7)	11.3 (9.5)	149/142
Deaf	62.8 (4.9)	16.5 (3.8)	20.8 (4.1)	56.5 (5.1)	13.6 (3.5)	29.9 (4.7)	-6.3 (7.1)	-2.9 (5.2)	9.1 (6.2)	251/245
Orthopedically impaired	79.8 (5.7)	15.2 (5.1)	5.0 (3.1)	78.3 (6.1)	10.8 (4.6)	10.9 (4.6)	-1.5 (8.3)	-4.4 (6.9)	5.9 (5.5)	169/157
Other health impaired	66.9 (8.7)	18.3 (7.1)	14.8 (6.6)	60.2 (9.2)	13.3 (6.4)	26.5 (8.3)	-6.7 (12.7)	-5.0 (9.6)	11.7 (10.6)	87/83
Multiply handicapped	85.2 (6.0)	10.3 (5.2)	4.5 (3.5)	83.3 (6.9)	2.9 (3.1)	13.8 (6.4)	-1.9 (9.1)	-7.4 (6.1)	9.3 (7.3)	111/95
Deaf/blind	80.8 (9.1)	19.2 (9.1)	.0 --	83.9 (8.9)	9.9 (7.2)	6.1 (5.8)	3.1 (12.7)	-9.3 (11.6)	6.1 (5.8)	34/31

Standard errors are in parentheses.

† p<.10, * p<.05, ** p<.01, *** p<.001

Table 4-5

TRENDS IN COMPETITIVE EMPLOYMENT OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

	Percentage of Youth, by Competitive Employment Status						Difference in Employment Rates Between < 2 and 3-5 Years after High School			
	Out of School < 2 Years			Out of School 3-5 Years						
Youth Characteristics	Not Employed	Part-Time	Full-Time	Not Employed	Part-Time	Full-Time	Not Employed	Part-Time	Full-Time	n at 2 Time Points
Gender										
Male	48.0 (3.3)	23.7 (2.8)	28.3 (3.0)	35.7 (3.3)	11.9 (2.2)	52.4 (3.4)	-12.3** (4.7)	-11.8*** (3.6)	24.1*** (4.5)	1,216/1,125
Female	68.5 (4.9)	14.9 (3.8)	16.6 (3.9)	60.0 (5.4)	18.4 (4.3)	21.6 (4.5)	-8.5 (7.3)	3.5 (5.7)	5.0 (6.0)	725/690
Ethnic background										
White	46.9 (3.3)	23.8 (2.8)	29.3 (3.0)	39.2 (3.3)	13.4 (2.3)	47.4 (3.4)	-7.7† (4.7)	-10.4** (3.6)	18.1*** (4.5)	1,325/1,240
Black	74.6 (5.4)	13.6 (4.3)	11.8 (4.0)	52.7 (6.8)	17.6 (5.2)	29.6 (6.2)	-21.9* (8.7)	4.0 (6.7)	17.8* (7.4)	402/361
Hispanic	50.6 (11.7)	24.7 (10.1)	24.7 (10.1)	49.5 (12.7)	11.7 (8.2)	38.8 (12.4)	-1.1 (17.3)	-13.0 (13.0)	14.1 (16.0)	147/135
Secondary school completion										
Graduate	46.7 (3.5)	23.7 (2.9)	29.6 (3.2)	35.3 (3.3)	16.4 (2.6)	48.3 (3.4)	-11.4* (4.8)	-7.3† (3.9)	18.7*** (4.7)	1199/1231
Dropout	57.8 (5.7)	18.9 (4.5)	23.3 (4.9)	52.2 (6.3)	9.2 (3.7)	38.6 (6.2)	-5.6 (8.5)	-9.7† (5.8)	15.3* (7.9)	316/268
Ageout	74.1 (4.9)	11.0 (3.5)	14.9 (4.0)	62.9 (5.8)	15.9 (4.4)	21.1 (4.9)	-11.2 (7.6)	4.9 (5.6)	6.2 (6.3)	345/303

Standard errors are in parentheses.

† p<.10, * p<.05, ** p<.01, *** p<.001

Finally, among secondary school graduates, the trend was toward significantly less nonemployment (47% to 35%, p<.05) and increased full-time work (30% to 48%, p<.001). Among secondary school dropouts, overall joblessness did not change appreciably over the 3-year period. However, dropouts who had jobs were significantly more likely to be employed full-time when out of school 3 to 5 years than earlier (39% vs. 23%, p<.05). Their peers who aged out of secondary school did not experience significant shifts in their intensity of employment over the same period of time (e.g., 15% vs. 21% working full-time). These findings resemble those in the general population, where over time dropouts lose ground to graduates from secondary school.

We observe, then, a strong movement toward full-time employment among many youth with disabilities when aggregate rates are examined for these groups. This is particularly the case among youth with learning disabilities; youth who were male, white, and black; and youth who had graduated from high school. The same trend toward full-time employment is observed when we look at the changing employment experiences of youth who were employed at both points in time (see Table 4-6). Among these youth, 80% of those who were employed full-time up to 2 years after secondary school were similarly employed 3 years later. Three-fourths of youth who worked part-time when they had been out of school less than 2 years moved to full-time jobs later, consistent with the steep rise in the aggregate rate of full-time work we observed in Table 4-4. It was fairly uncommon for youth workers to move from full-time to part-time jobs, with only 20% of initial full-time workers doing so. Finally, 25% of youth employed at both times worked part-time at both times. This pattern of full-time employment predominating by the time youth had been out of school 3 to 5 years was consistent for all disability groups, genders, ethnic backgrounds, and modes of school leaving. Women, however, were significantly more likely than men to move from full- to part-time work (33% vs. 7%, p<.05; Appendix D, Table D4-2).

Table 4-6

PART-TIME AND FULL-TIME EMPLOYMENT OF YOUTH WITH DISABILITIES WHO WERE EMPLOYED AT BOTH POINTS IN TIME

	Less Than 2 Years After High School	
When 3 to 5 years out of school	Part-Time	Full-Time
Percentage employed:		
Part-time	24.8 (6.0)	20.4 (5.6)
Full-time	75.2 (6.0)	79.6 (5.6)
n	238	249

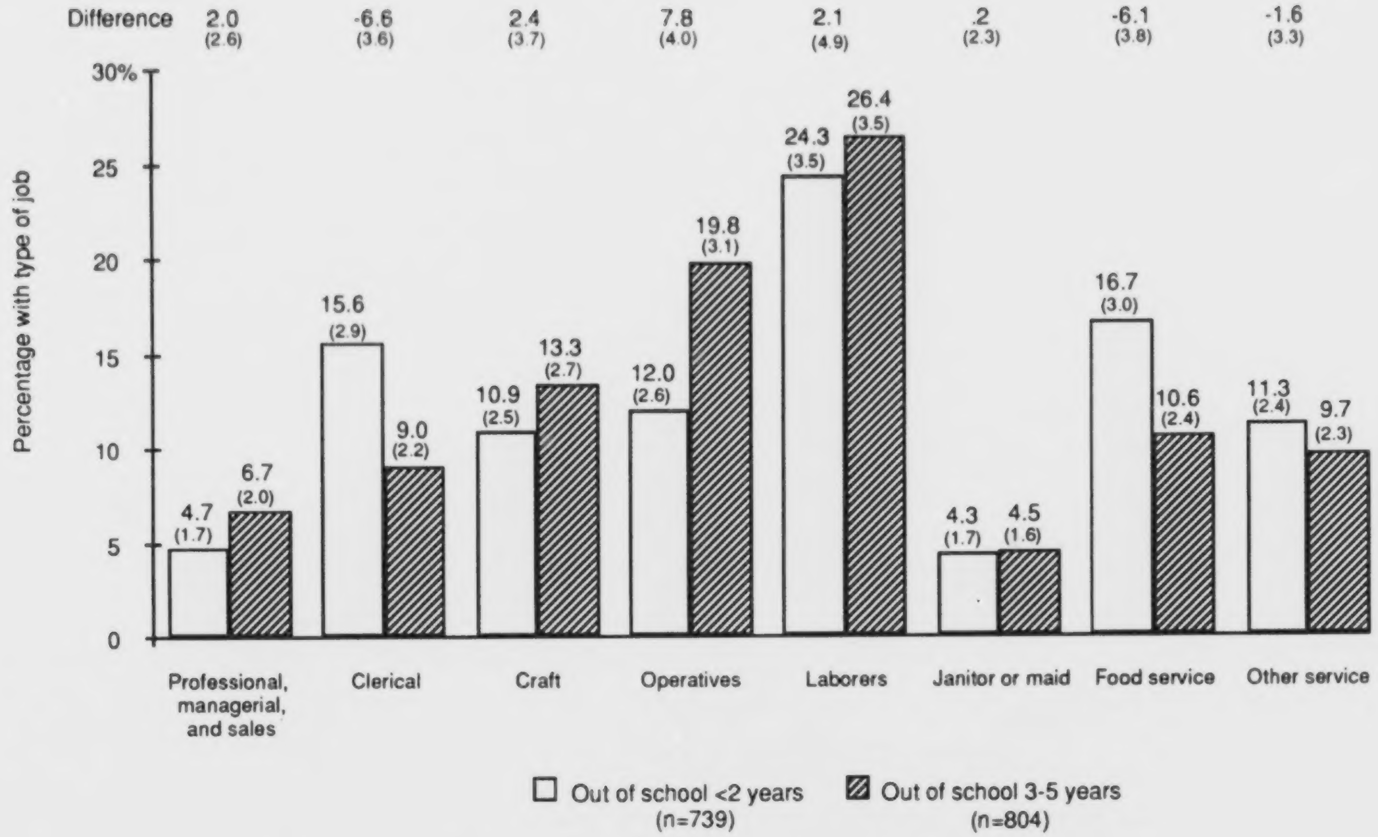
Standard errors are in parentheses.

Trends In Occupations

Another index of job quality is the type of job held. Different occupations offer varying prospects for advancement and are associated with quite different projected earnings. Knowing the types of jobs that youth held, therefore, can be indicative of their subsequent career opportunities. Based on their occupations less than 2 years after leaving school (D'Amico, 1991), youths' prospects for advancement seemed limited. Did youth experience occupational mobility in the subsequent 3 years or did they continue to be heavily concentrated in unskilled blue-collar and service occupations?

Figure 4-6 compares the occupations of employed youth when they were out of school less than 2 years with the jobs held by working youth with disabilities 3 years later. Changes were generally modest, but there was a small decline in clerical jobs (16% to 9%, $p<.10$) and an increase in operative jobs (12% to 20%, $p<.10$). This stability in the distribution of occupations stands in contrast to the general population of youth, who, in the aggregate, had significant increases in professional (12% to 20%, $p<.01$) and crafts categories (8% to 11%, $p<.05$) to set off decreases in service (27% to 21%, $p<.001$) and laborer categories (13% to 5%, $p<.001$). Further, the differences in the distributions of occupations between youth in general and youth with disabilities are striking. When compared with the general population measured by the NLSY, youth with disabilities were more likely to be laborers (26% vs. 8%, $p<.01$), and less likely to be professionals (7% vs. 20%, $p<.01$) or clerical workers (9% vs. 27%, $p<.01$).

Within disability categories, no statistically significant shifts were evident, and the pattern of movement was not consistent across categories (Appendix D, Table D4-3). The general absence of marked shifts in the occupations that youth held during these years applies as well when we look at gender differences. As Table 4-7 shows, about the same percentages of males and females were in each of the major occupational categories at the two time points, although some shifting within service occupations may have occurred among females. This table also shows that, 3 to 5 years after they left secondary school, males and females were still distributed very differently among the occupational categories, with females more likely than males to be clerical (22% vs. 5%, $p<.05$) or service workers (44% vs. 20%, $p<.05$) and less likely to be craft workers (<1% vs. 17%, $p<.01$) or laborers (3% vs. 33%, $p<.001$). These gender relationships are fairly similar to those in the general population, where females outnumber males in the clerical (42% vs. 12%) and service (25% vs. 16%) categories and are outnumbered by males in the craft (12% vs. 19%) and labor (2% vs. 15%) categories (NLSY). However, females in the general population were more likely to be in professional jobs than male peers (24% vs. 18%).



Standard errors are in parentheses.

FIGURE 4-6 OCCUPATIONS OF COMPETITIVELY EMPLOYED OUT-OF-SCHOOL YOUTH WITH DISABILITIES

Table 4-7

OCCUPATIONS OF EMPLOYED MALES AND FEMALES WITH DISABILITIES

	Males			Females		
	Out of School <2 Years	Out of School 3-5 years	Difference	Out of School <2 Years	Out of School 3-5 Years	Difference
Percentage working as:						
Professional, managerial, and sales workers	4.6 (1.8)	5.9 (2.1)	1.3	4.6 (3.6)	9.6 (5.1)	5.0
Clerical workers (e.g., stock clerks, secretaries, postal clerks)	13.1 (2.9)	5.3 (2.0)	-7.8	21.5 (7.1)	22.4 (7.2)	.9
Craft workers (e.g., apprentices, mechanics)	13.2 (2.9)	16.9 (3.3)	3.7	0.9 (1.6)	0.3 (1.0)	-.6
Operatives (e.g., packers, service station attendants)	15.2 (3.1)	19.5 (3.5)	4.3	17.1 (6.5)	20.8 (7.0)	3.7
Laborers (e.g., lawn mowing, grounds keepers)	27.2 (3.8)	32.8 (4.1)	5.6	7.7 (4.6)	3.0 (3.0)	-4.7
Service workers						
Janitors and maids	5.7 (2.0)	3.9 (1.7)	-1.8	3.9 (3.4)	6.5 (4.3)	2.6
Food service	12.9 (2.9)	9.5 (2.6)	-3.4	27.8 (7.8)	14.7 (6.1)	-13.1
Child care, including babysitting	0.2 (0.4)	0.1 (0.3)	-.1	9.0 (5.0)	2.5 (2.7)	-6.5
Other	7.8 (2.3)	6.1 (2.1)	-1.7	7.5 (4.6)	20.2 (7.0)	12.7
n	600	579		249	225	

Standard errors are in parentheses.

As noted earlier, however, aggregate figures can mask employment changes experienced by individual youth. For example, if the same number of youth moved into an occupational category as moved out of it, no change in the aggregate percentage of youth with that kind of job would be noted, but substantial fluctuation in jobs would have occurred. Hence, we also looked at movement among jobs held by youth employed at both time periods we have studied (Table 4-8). Significantly greater movement of individual youth is evident than aggregate figures revealed. Overall, fewer than half of youth working at both time points were working in the same job category 3 to 5 years after secondary school as they were when out of school less than 2 years. For example, only 35% of clerical workers remained clerical workers; 33% became operatives and 12% became laborers. Similarly, 28% of early service workers remained so; the majority of others were fairly equally distributed between laborer, clerical, craft, and operative jobs 3 years later. Fewer than 10% of youth moved into the professional/sales category from any other type of job over the 3-year period.

Trends in Hourly Wages

Earlier NLTS findings demonstrated that poverty-level wages were quite common for youth with disabilities who were employed in their first 2 years after leaving high school (D'Amico, 1991). At the same time, we discovered that their wages were quite comparable to those earned by noncollege youth of similar ages in the general population, reminding us that the transition to employment is difficult for youth generally and that the establishment of well-paying careers proceeds only gradually. This observation again brings home the importance of examining the evolution of careers for youth with disabilities. Specifically, did their wages increase over time, as one would expect if they were gaining promotions or merit raises? Or were their wage profiles flat, as would occur if youth found themselves in jobs with few prospects for advancement? If advancement occurred, did youth in all groups benefit equally, or did those in some disability categories lag behind?

Figure 4-7 begins to address these issues by showing the distribution of wages for youth with competitive jobs less than 2 years after high school and 3 years later. Wage advancement was pronounced. The percentages earning less than \$3.30 and from \$3.31 to \$4.30 dropped sharply, from more than 60% at the earlier time point to less than 25% 3 years later ($p<.001$). Meanwhile, the proportion of youth earning more than \$6.00 per hour increased fourfold, from 9% to nearly 40% ($p<.001$). Shifts at the bottom end of the wage spectrum can be attributed partly to an increase in the federal minimum wage from \$3.35 per hour in 1987 to \$3.80 in 1990, but shifts at the upper end of the wage spectrum also were significant and probably unrelated to changes in the minimum wage.*

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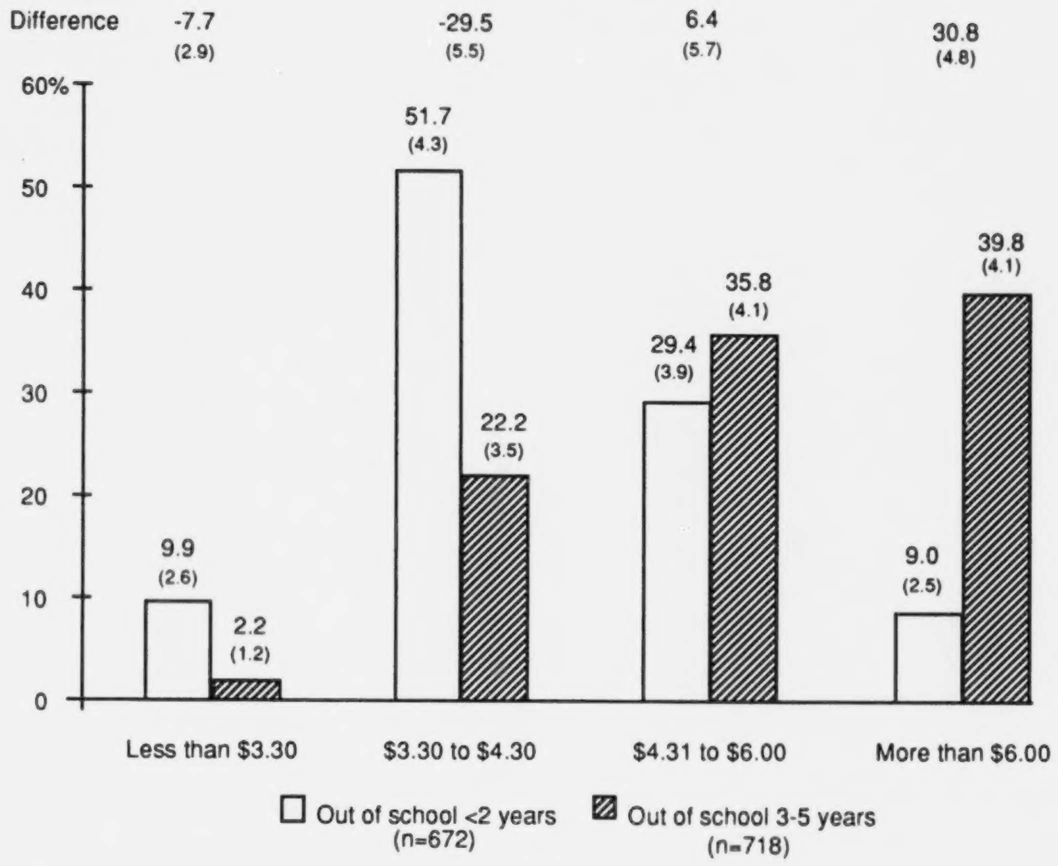
* The federal minimum wage was \$3.35 per hour for most of the decade of the eighties. Federal legislation raised the rate to \$3.80 on April 1, 1990, and to \$4.25 1 year later. With each increase, the legislation also provided for a training wage equal to about 85% of the minimum, which could be paid to workers aged 16 to 19 during their first 3 months of employment.

Table 4-8

OCCUPATIONS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES WHO WERE EMPLOYED LESS THAN 2 YEARS AND 3-5 YEARS AFTER SECONDARY SCHOOL

	Less Than 2 Years After High School					
	Prof., Mgt., Sales Workers	Clerical Workers	Craft Workers	Operatives	Laborers	Service Workers
3 to 5 years after high school, percentage working as:						
Professional, management, sales workers	22.8 (17.0)	10.2 (7.7)	.0 --	1.4 (3.8)	2.3 (3.2)	4.6 (3.6)
Clerical workers (e.g.,secretaries, postal clerks)	17.0 (15.2)	35.2 (12.2)	.0 --	1.3 (3.7)	.5 (1.5)	14.8 (6.0)
Craft workers (e.g., mechanics, apprentices)	4.9 8.8	2.1 (3.7)	35.0 (14.5)	20.0 (12.9)	16.0 (7.8)	15.5 (6.1)
Operatives (e.g., packers, service station)	2.2 (5.9)	32.8 (11.9)	5.1 (6.7)	51.0 (16.2)	17.0 (8.0)	11.7 (5.5)
Laborers (e.g., lawn mowers,grounds keepers)	26.7 (17.9)	12.4 (8.4)	39.2 (14.9)	18.4 (12.5)	37.8 (10.4)	25.7 (7.4)
Service workers (e.g., janitors, food service)	26.3 (17.8)	7.3 (6.6)	20.7 (12.3)	7.7 (8.6)	26.5 (9.4)	27.8 (7.6)
n	27	89	50	56	73	157

Standard errors are in parentheses.



Standard errors are in parentheses.
Numbers indicate percentage of employed youth earning the indicated hourly wage.

FIGURE 4-7 TRENDS IN HOURLY WAGES OF YOUTH WITH DISABILITIES COMPETITIVELY EMPLOYED

Whereas increases in employment occurred for youth in just a few disability categories, sharp wage increases were realized by working youth in each category. Table 4-9 shows that youth in all categories experienced significant and substantial declines in the percentage earning $4.30 per hour or less and increases in the percentage earning $4.31 or more. For example, among youth classified as having serious emotional disturbances, 48 percentage points fewer youth were earning $4.30 per hour or less when out of school 3 to 5 years, and 40 percentage points more youth earning more than $6.00 per hour (p<.001).

Table 4-9

TRENDS IN WAGE EARNING FOR OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired
Youth were out of secondary school <2 years and earned per hour:									
< $3.30	9.9	7.9	15.0	4.4	17.0	10.3	6.3	11.7	17.1
	(2.6)	(3.1)	(6.0)	(3.8)	(7.4)	(7.2)	(5.6)	(5.8)	(14.7)
$3.30 - $4.30	51.7	49.3	56.4	58.3	56.4	69.6	55.2	62.3	66.6
	(4.3)	(5.8)	(8.4)	(9.2)	(9.7)	(10.8)	(11.3)	(8.7)	(18.4)
$4.31 - $6.00	29.4	33.8	19.5	29.4	16.3	14.5	29.9	22.2	9.1
	(3.9)	(5.5)	(6.7)	(8.5)	(7.3)	(8.3)	(10.4)	(7.5)	(11.2)
> $6.00	9.0	9.0	9.1	7.9	10.3	5.5	8.5	3.7	7.1
	(2.5)	(3.3)	(4.9)	(5.0)	(6.0)	(5.4)	(6.4)	(3.4)	(10.0)
n	672	195	87	66	65	42	67	80	33
Median hourly wage	4.00	4.05	3.35	4.00	3.50	3.50	3.95	3.65	3.35
Youth were out of secondary school 3-5 years and earned per hour:									
< $3.30	2.2	2.0	2.6	2.2	2.7	2.7	.0	1.7	3.7
	(1.2)	(1.6)	(2.5)	(2.9)	(3.2)	(3.6)	(0.0)	(2.2)	(7.9)
$3.30 - $4.30	22.2	18.4	21.3	20.5	39.8	13.2	20.1	22.5	19.6
	(3.5)	(4.4)	(6.4)	(8.0)	(9.7)	(7.5)	(9.6)	(7.0)	(16.7)
$4.31 - $6.00	35.8	34.5	27.4	44.7	44.2	43.3	45.2	30.6	62.9
	(4.1)	(5.4)	(7.0)	(9.8)	(9.8)	(11.0)	(11.9)	(7.7)	(20.3)
> $6.00	39.8	45.2	48.7	32.7	13.2	40.8	34.7	45.1	13.9
	(4.1)	(5.6)	(7.8)	(9.2)	(6.7)	(10.9)	(11.3)	(8.4)	(14.5)
n	718	208	93	73	76	47	60	86	34
Median hourly wage	5.72	6.00	6.00	5.25	5.00	5.14	5.65	6.00	6.00
Difference in wages between 0-2 and 3-5 years after secondary school:									
< $3.30	-7.7**	-5.9†	-12.4†	-2.2	-14.3†	-7.6	-6.3	-10.0	-13.4
	(2.9)	(3.5)	(6.5)	(4.8)	(8.1)	(8.0)	(5.6)	(6.2)	(16.7)
$3.30 - $4.30	-29.5***	-30.9***	-35.1***	-37.8**	-16.6	-56.4***	-35.1*	-39.8***	-47.0†
	(5.5)	(7.3)	(10.6)	(12.2)	(13.7)	(13.1)	(14.8)	(11.2)	(24.8)
$4.31 - $6.00	6.4	.7	7.9	15.3	27.9*	28.8*	15.3	8.4	53.8*
	(5.7)	(7.7)	(9.7)	(13.0)	(12.2)	(13.8)	(15.8)	(10.7)	(23.2)
> $6.00	30.8***	36.2***	39.6***	24.8*	2.9	35.3**	26.2*	41.4***	6.8
	(4.8)	(6.5)	(9.2)	(10.5)	(9.0)	(12.2)	(13.0)	(9.1)	(17.6)

Standard errors are in parentheses.

† p<.10, * p<.05, ** p<.01, *** p<.001

Moreover, the increase in median wages more than kept pace with the rate of inflation, suggesting that a real increase in earning power occurred. The Consumer Price Index, the government's most closely watched measure of inflation, rose about 13% from 1987 to 1990. Meanwhile, the median wages of employed youth with disabilities rose about 43% overall and by not less than 31% for youth in any disability category. By this standard, working youth were making substantial progress in their careers.

This good news must be tempered by several further observations. The median hourly wage still was just $5.72, which translates into an annual income of less than $12,000 for youth who were employed full-time and year around. Second, although all groups realized wage increases, the initial disparity in wages between the disability categories that was apparent in the early years after secondary school persisted. For example, those classified as mentally retarded or orthopedically impaired, groups with among the lowest median wages initially, were much less likely than those in most other groups to have made inroads into the highest wage category.

As shown in Table 4-10, both males and females had realized sizable jumps in earnings, from 11% to 44% earning more than $6.00 per hour (p<.001) for males and from 1% to 23% for females (p<.01). However, males were significantly more likely than females to be high-wage earners 3 to 5 years after secondary school (44% vs. 23%; p<.05), suggesting that the wage gap between genders was widening.

Both whites (9% vs. 46%, p<.001) and Hispanics (<1% vs. 25%, p<.01) saw the percentage of high-wage earners jump substantially, although black youth did not experience the same increase. Three to 5 years out of high school, whites were more likely than others to be high-wage earners, significantly so when compared with blacks (46% vs. 14%; p<.01).

Both high school graduates (7% vs. 42%, p<.001) and dropouts (11% vs. 38%, p<.05) had strong increases in wage levels over the 3-year period. Youth who aged out, on the other hand, did not experience such growth in wages. Further, it appears that graduates were beginning to experience the economic returns of their education. Although they were somewhat less likely to be high-wage earners than others in the early years after high school (7% vs. 11% and 13%), 3 years later they were somewhat more likely to earn more than $6.00 per hour (42% vs. 38% and 26%). Although these differences are not statistically significant for these time periods, if this trend continues, we will begin to see emerging a stronger economic position common for graduates relative to dropouts.

Finally, the aggregate trend toward higher wages demonstrated above is confirmed when we examine the experiences of individual youth employed at both points in time (Table 4-11). Specifically, the movement of youth out of the lowest wage category was especially pronounced. Virtually all (97%) of youth with disabilities earning less than $3.30 in 1987 were earning more than that amount 3 years later. Moreover, 80% of these low earners were earning at least $1.00 more at the later time point, a wage higher than the federal minimum,

Table 4-10

TRENDS IN COMPETITIVELY EMPLOYED YOUTHS' EARNING WAGES ABOVE $6.00 PER HOUR, BY YOUTH CHARACTERISTICS

Youth Characteristic	Percentage of Employed Youth Earning >$6.00 Per Hour: Out of School <2 Years	Percentage of Employed Youth Earning >$6.00 Per Hour: Out of School 3-5 Years	Difference Between <2 and 3-5 Years	n
Gender				
Male	10.6 (2.8)	44.3 (4.7)	33.7***	518
Female	0.8 (1.7)	23.0 (7.9)	22.2**	200
Ethnic Background				
White	8.7 (2.6)	46.3 (4.6)	37.6***	539
Black	14.2 (7.7)	13.7 (8.5)	-0.5	104
Hispanic	0.1 (1.1)	25.0 (16.6)	24.9	52
Secondary School Completion				
Graduate	6.8 (2.3)	41.7 (4.8)	34.9***	529
Dropout	11.2 (6.0)	37.9 (9.2)	26.7*	105
Ageout	13.2 (6.9)	26.3 (9.4)	13.1	81

Standard errors are in parentheses.

* p<.05, ** p<.01, *** p<.001

even after its increase in 1990. At the same time, some backsliding in earnings did occur, especially among high earners in the early years. For example, among those whose wage was more than $6.00 per hour when they were less than 2 years out of secondary school, more than 40% were earning $6.00 per hour or less 3 years later.

Table 4-11

HOURLY WAGE IN 1987 AND 1990 OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES WHO WERE EMPLOYED AT BOTH TIMES

	1987			
Percentage earning an hourly wage in 1990 of:	<$3.30	$3.31 to $4.30	$4.31 to $6.00	>$6.00
<$3.30	2.6 (6.1)	1.2 (1.8)	0.0 --	10.5 (9.7)
$3.31 - $4.30	17.0 (14.4)	14.3 (5.7)	7.2 (5.0)	12.3 (10.4)
$4.31 - $6.00	60.7 (18.7)	45.3 (8.2)	25.3 (8.4)	18.4 (12.2)
>$6.00	19.7 (15.2)	39.2 (8.0)	67.6 (9.1)	58.8 (15.5)
n	34	216	106	37

Standard errors are in parentheses.

Receipt of Fringe Benefits

In recent years, fringe benefits have become an increasingly important part of the total compensation that employees in the U.S. workforce receive. Among the most highly coveted fringe benefits received by employees are paid vacation and sick leave and, given the tremendous escalation in health care costs, medical insurance coverage paid in whole or in part by the employer.

In recognition of the importance of fringe benefits, the 1990 NLTS survey asked whether employed youth "as part of this job received paid vacation or sick leave (and/or) medical or hospital insurance." As Table 4-12 shows, about 60% of employed youth received each of these benefits. However, their receipt was highly related to the types of jobs held. More than two-thirds of full-time workers received these benefits, compared with just over one-third of part-time workers (vacation, p<.01; medical, p<.001); 60% to 78% of white-collar and operative and craft workers received them, compared with generally fewer than 50% of service workers and laborers. Receipt of fringe benefits, too, was highly related to youths' hourly wages, with those earning more than $6.00 per hour being about twice as likely as those earning $4.30 or less per hour to receive paid vacation (71% vs. 30%; p<.001) and medical insurance (74% vs. 41%; p<.01).

Table 4-12

FRINGE BENEFITS RECEIVED BY COMPETITIVELY EMPLOYED OUT-OF-SCHOOL WORKERS WITH DISABILITIES, BY CHARACTERISTICS OF THEIR JOBS

	Percentage of Employed Youth with:		
Job Characteristics	Vacation or Sick Leave	Medical Insurance	n
All competitively employed youth	59.9 (3.9)	60.9 (3.9)	773
Youth worked for pay:			
Part-time	37.4 (7.8)	35.7 (7.8)	244
Full-time	67.4 (4.4)	69.2 (4.3)	530
Youth worked as:			
Professional, management, sales workers	75.0 (13.2)	62.5 (14.7)	76
Clerical workers (e.g., secretaries)	74.8 (9.7)	61.9 (10.7)	130
Craft workers (e.g., mechanics, apprentices)	67.4 (9.0)	71.4 (8.7)	100
Operatives (e.g., service station attendants)	77.4 (8.4)	78.0 (8.4)	118
Laborers (e.g., grounds keepers)	43.8 (8.5)	62.6 (8.2)	136
Service workers (e.g., food service, janitors)	49.5 (7.8)	39.2 (7.7)	200
Youth earned:			
$3.30 - $4.30 per hour	30.1 (8.9)	40.7 (9.4)	140
$4.31 - $6.00 per hour	64.9 (7.1)	62.1 (7.3)	244
> $6.00 per hour	71.3 (5.9)	74.5 (5.8)	276

Standard errors are in parentheses.

This evidence underscores the fact that the indicators of labor market success are themselves highly interrelated. The major occupational categories shown in these tables, of course, include a variety of kinds of jobs, suggesting that caution in making generalizations must be observed. Nonetheless, youth who found white-collar and skilled or semiskilled blue-collar jobs typically had more advantageous career opportunities and received higher wages and fringe benefits, while unskilled and service sector jobs typically were associated with less favorable outcomes.

Sheltered Employment

Thus far, we have focused on the extent to which youth with disabilities had obtained competitive paid jobs and on the characteristics of those jobs. Competitive employment, however, is not the only option available to some youth with disabilities. Opportunities for sheltered employment have existed for some time, and supported work programs represent an increasingly popular alternative to sheltered employment (Bellamy, Rhodes, & Albin, 1986; Wehman, 1986).

The 1990 parent/youth interview collected data on both sheltered and supported employment. While confident in the parent report of data on sheltered employment, we are less so concerning supported employment. When defined by the response to the question "Does his/her employer get money from a government program that is used to give ongoing support services, such as a job counselor or job training," only 1% of parents responded affirmatively. This led us to question the appropriateness of using parents as primary informants for supported-employment data. They may have been unaware of the particulars of the youth's employment regarding support services or funding sources. Thus, we focus here solely on paid sheltered employment, recognizing that our inability to discuss supported employment as an alternative to paid sheltered employment leaves an important gap in the knowledge base.

Table 4-13 reports the extent to which youth had paid sheltered jobs. Paid sheltered employment was common for youth in several disability categories. Among those classified as deaf/blind or multiply handicapped, for example, 24% and 25% had paid sheltered jobs, respectively—3 to 5 years after secondary school—4 to 5 times more than the 5% rate reported for youth overall. Youth with mental retardation or visual impairments had rates of paid sheltered work of 15% and 12%, respectively. For these disability groups and several others, these figures substantially add to—and in some cases exceed—rates of competitive employment shown previously in Figure 4-3.

Interestingly, the rate of paid sheltered employment for youth in these groups also increased over time. Although earlier overall rates of paid sheltered work were about the same at the two time periods studied (4% when youth were out of school less than 2 years and 5% later), Table 4-13 shows the rates for those classified as multiply handicapped or deaf/blind doubled over these years, from 13% to 25% for youth in the first group and from 13% to 24% for those in the second ($p<.10$).

Table 4-13

EXTENT OF SHELTERED EMPLOYMENT OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

	Percentage of Youth with Paid Sheltered Work		
Primary Disability Category	Out of School < 2 Years	Out of School 3-5 Years	n
All conditions	4.0 (1.1)	5.2 (1.3)	1,941/1,796
Learning disabled	2.3 (1.3)	.7 (.8)	337/320
Emotionally disturbed	0.6 (0.8)	.8 (1.1)	220/178
Speech impaired	2.5 (2.2)	2.2 (2.1)	133/125
Mentally retarded	8.8 (2.9)	15.1 (3.7)	273/257
Visually impaired	4.5 (2.5)	11.6 (4.0)	177/171
Hard of hearing	5.4 (3.3)	7.4 (4.0)	149/140
Deaf	1.2 (1.1)	4.2 (2.1)	251/242
Orthopedically impaired	3.9 (2.7)	7.9 (4.0)	169/156
Other health impaired	7.1 (4.8)	8.2 (5.1)	87/83
Multiply handicapped	12.9 (5.7)	25.1 (8.1)	111/93
Deaf/blind	13.4 (7.8)	23.9 (10.3)	34/31

Standard errors are in parentheses.

Also of interest is whether youth moved from paid sheltered employment to nonsheltered work. Although the number of youth in paid sheltered settings when out of school less than 2 years was too small to display these transition patterns by disability category, the overall results, shown in Table 4-14, are interesting. This table shows the employment status 3 to 5 years after secondary school of youth who had been in either part-time or full-time paid sheltered employment 3 years earlier, and, for comparison, those who were not employed but doing volunteer work and those neither employed nor doing volunteer work.

Table 4-14 shows that 37% of those in paid sheltered employment in their first 2 years out of school moved to either full- or part-time competitive jobs 3 years later. However, both youth who were unemployed and those who were in volunteer positions made similar moves toward competitive work. Interestingly, youth who performed volunteer work in their first 2 years out of secondary school were most likely to find competitive jobs later (60%). Many (41%) of those not working for pay or in a volunteer capacity in their early years were also able to find competitive employment 3 years later. Table 4-14 suggests that there is considerable movement through different types employment placements and that, at least for some youth, sheltered employment is not a terminal placement.

Table 4-14

EMPLOYMENT 3 TO 5 YEARS AFTER SECONDARY SCHOOL FOR THOSE NOT COMPETITIVELY EMPLOYED WHEN THEY WERE LESS THAN 2 YEARS OUT OF SCHOOL

	Percentage with Employment 3-5 Years After Secondary School:				
Employment <2 Years After Secondary School	Not Employed	Volunteer	Sheltered	Competitive	n
Sheltered employment	31.6 (12.1)	1.0 (2.5)	30.2 (12.0)	37.2 (12.6)	109
Not in paid employment but doing volunteer work	34.4 (10.0)	1.8 (2.8)	3.3 (3.8)	60.4 (10.3)	139
Not in paid employment and not doing volunteer work	50.4 (5.1)	1.5 (1.2)	7.0 (2.6)	41.1 (5.0)	755

Standard errors are in parentheses.

In general, then, relatively small numbers of youth with disabilities were employed in sheltered settings at each point in time. Further, a minority of those youth who held some sort of sheltered employment in the early years after secondary school were employed in a similar setting 3 years later. This may be indicative of job mobility for some youth and job instability for others.

Youths' Perceptions of Their Opportunities

Trends in employment rates and job characteristics suggest that the hourly wages commanded by workers have increased substantially, but access to jobs has not improved for youth in many categories, nor has there been an aggregate shift up the occupational hierarchy. But, to complement these indices of employment success, we should not ignore what youth themselves can tell us about their employment experiences.

Youth who were employed in 1990 and who were the respondent (i.e., these questions were not asked if a parent or guardian was the respondent) were asked a number of questions related to their satisfaction with their jobs and their perception of opportunities for advancement. Readers should be reminded of the discussion in Chapter 2 of the characteristics of youth respondents; they were generally less severely impaired youth, not a cross section of all youth or all working youth with disabilities. In addition, readers should be aware of the possibility of respondents' unwillingness to answer negatively to subjective questions of this type.

Table 4-15

SELF-REPORTED JOB SATISFACTION OF OUT-OF-SCHOOL WORKERS WITH DISABILITIES, BY CHARACTERISTICS OF THEIR JOBS

	Percentage of Youth Employed for Pay in 1990 Reporting:				
Job Characteristics	Being Well Paid	Being Well Treated	Having "Chances to Advance"	Liking Job "Very" or "Fairly" Well	n
All competitively employed youth	75.7 (4.2)	93.5 (2.4)	83.0 (3.7)	94.7 (2.1)	445
Youth worked:					
Part-time	70.9 (8.2)	91.9 (5.0)	75.9 (8.0)	90.1 (5.4)	141
Full-time	77.1 (4.8)	94.0 (2.7)	85.0 (4.1)	96.3 (2.2)	317
Youth worked as:					
Professional, management, sales workers	84.8 (12.0)	90.7 (9.9)	80.0 (13.4)	97.7 (5.1)	59
Clerical workers (e.g., secretaries)	65.4 (12.5)	93.6 (6.4)	75.8 (11.5)	85.9 (4.0)	74
Craft workers (e.g., mechanics)	83.3 (8.6)	100.0 (0.0)	91.2 (6.6)	99.2 (2.0)	57
Operatives (e.g., packers)	63.8 (11.2)	89.5 (7.2)	85.2 (8.5)	97.2 (3.8)	66
Laborers (e.g., grounds keepers)	81.0 (8.4)	91.1 (6.1)	87.7 (7.1)	94.2 (4.9)	76
Service workers (e.g., food service)	75.7 (8.3)	97.0 (3.3)	74.0 (8.5)	95.1 (4.2)	110
Youth earned:					
\$3.30 to \$4.30 per hour	71.1 (10.9)	84.8 (8.6)	87.3 (8.1)	88.6 (7.4)	78
\$4.31 to \$6.00 per hour	65.9 (7.6)	94.1 (3.8)	81.2 (6.3)	93.9 (3.8)	167
> \$6.00 per hour	85.3 (5.5)	96.9 (2.7)	81.2 (6.2)	99.4 (1.2)	173

Standard errors are in parentheses.

Findings regarding young workers' attitudes toward their jobs are heartening. Affirming what others have found (e.g., Mithaug et al., 1985), youth with disabilities expressed a remarkable degree of satisfaction with their present work and optimism for the future. As Table 4-15 shows, 94% said that they were treated "very well" or "pretty well" by their coworkers, and 95% liked their job at least fairly well. Overall, 83% felt that they had the chance to advance, a higher rate than reported by 1980 high school sophomores 4 years after high school, among whom 61% reported being satisfied or very satisfied with their opportunities for promotion (Sebring, Campbell, Glusberg, Spencer, and Singleton, 1987). More than three-fourths of working youth with disabilities (76%) felt that they were paid at least "pretty well" for their work, a virtually identical level of satisfaction as reported for the general population from the High School and Beyond study (75%; Sebring et al., 1987). Moreover, results for youth with disabilities vary only slightly with the characteristics of the job they held—sizable majorities in all occupational and wage categories expressed relatively high satisfaction with these aspects of their jobs.

Appraisals of prospects for the future also were favorable. Youth who had held jobs within the year preceding the 1990 survey, or their parents, were asked whether they expected that the youth would have a job "about the same" or "better" than the one they had and whether they expected the pay to be "about the same" or "better." Reflecting the actual trends in hourly wages and occupations we have observed, Table 4-16 shows that 85% expected youths' pay to improve, but only 60% expected the job to be better more generally. These opinions, too, show only subtle variation by occupation or wage levels. All youth in the three higher wage categories were significantly more likely to expect better pay within a year than peers in the lowest ($p<.05$).

Overall, then, working youth were satisfied with their achievements to date and were confident about their opportunities for the future.

Joblessness Among Youth with Disabilities

Earlier in this chapter, we reported that when youth with disabilities were out of school 3 to 5 years, 43% were not working. Why? Was it that their search for work had been fruitless? Were they not searching for work because they felt that their disability or personal or other responsibilities precluded employment? The NLTS asked youth who did not have paid jobs on the survey date, or their parents, whether the youth were looking for work and, if not, why not. These results may illuminate some reasons why many youth with disabilities were jobless and whether they perceived paid employment as being a realistic opportunity.

Table 4-16

SELF-REPORTED PERCEPTIONS OF FUTURE EMPLOYMENT OPPORTUNITIES

	Percentage of Youth		
	Expecting Better Pay in 1 Year	Expecting Better Job in 1 Year	n
All competitively employed youth	84.8 (2.9)	60.2 (3.9)	762
Youth worked as:			
Professional, managerial, & sales workers	81.9 (12.3)	61.8 (15.8)	69
Clerical workers (e.g., clerks, secretaries)	75.3 (9.6)	72.6 (10.0)	126
Craft workers (e.g., apprentices, mechanics)	90.4 (5.6)	57.7 (9.4)	102
Operatives (e.g., packers, service station)	91.1 (5.5)	57.8 (9.9)	121
Laborers (e.g., grounds keepers)	80.4 (6.7)	64.7 (8.2)	133
Food service	86.0 (7.7)	65.6 (10.7)	93
Other service	86.3 (10.3)	36.5 (14.2)	55
Wage categories			
\$3.30 - \$4.30	82.1 (7.0)	71.3 (8.6)	143
\$4.31 - \$6.00	90.7 (4.3)	67.4 (7.1)	244
>\$6.00	85.4 (4.7)	55.6 (6.7)	265
Youth worked			
Part-time	77.5 (6.7)	58.2 (8.0)	231
Full-Time	87.2 (3.1)	60.9 (4.5)	531

Standard errors are in parentheses.

Jobless Youth Looking for Work

According to definitions established by the U.S. Bureau of Labor Statistics, unemployed persons are those who are not employed but who are actively engaged in job search.* Table 4-17 shows the percentages of youth not in paid employment (whether sheltered or competitive) 3 to 5 years after secondary school who were "looking for a paid job." Overall,

Table 4-17

PERCENTAGE OF NONWORKING OUT-OF-SCHOOL YOUTH WITH DISABILITIES WHO WERE LOOKING FOR WORK

Disability Category	Percentage	Standard Error	n
All conditions[a]	42.6	4.8	799
Learning disabled	50.3	9.6	76
Emotionally disturbed	43.7	9.3	72
Speech impaired	33.2	11.9	39
Mentally retarded	37.8	7.1	115
Visually impaired	19.7	6.9	95
Hard of hearing	39.0	10.3	67
Deaf	36.4	7.3	120
Orthopedically impaired	24.2	7.2	105
Other health impaired	29.4	11.5	43
Multiply handicapped	12.9	8.3	48
Gender			
Male	56.3	6.1	413
Female	25.8	6.7	386
Ethnic background			
White	41.9	6.1	495
Black	50.1	9.5	191
Hispanic	23.5	14.7	71
Secondary school completion			
Graduate	43.6	5.8	515
Dropout	59.5	9.3	138
Ageout	21.1	7.6	140

[a] "All conditions" includes youth in all 11 federal special education disability categories; data are reported separately only for categories with at least 30 cases.

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* Note that the numbers tabulated in Table 4-17 are not unemployment rates, as technically defined. The unemployment rate is calculated by the Bureau of Labor Statistics as the number who are unemployed as a percentage of all those who are either working or unemployed (i.e., not working but looking for work). The percentages in Table 4-17 are calculated as the number who are unemployed as a percentage of all those not working (whether looking for work or not).

fewer than half of youth who were not employed were job hunting and thus would be officially counted as unemployed. However, the percentage varied greatly across the various disability categories, from a high near 50% for youth with learning disabilities to 13% of youth with multiple handicaps.

Jobless males were twice as likely as jobless females to be looking for work (p<.01). Differences between ethnic groups were not significant, but unemployed high school graduates (44%) and dropouts (60%) were significantly more likely to be looking for employment than peers who aged out of high school (21%, p<.05).

Reasons for Not Looking for Work

The extent to which disability affects a youth's perception of his or her ability to work is suggested by Table 4-18, which shows the reasons that jobless youth gave for not looking for work. Overall more than one-quarter of youth felt that their disability precluded them from working. Another one-quarter chose not to seek employment because of family responsibilities, and nearly 20% gave as the reason that they were enrolled in postsecondary schooling or a training program of some kind. Parents' disapproval of youths' working was another fairly common explanation (12%).

This information becomes richer when looked at in conjunction with demographic characteristics. For example, women with disabilities were more than 20 times as likely as male peers to cite raising families or working in the home as a reason for not seeking employment (43% vs. 2%; p<.001), consistent with findings reported in Chapter 6 that young women with disabilities were significantly more likely than men to be married and to be parents. White youth were 5 times more likely than black youth to cite family responsibilities as a reason for not looking for work outside the home (32% vs. 5%, p<.01); white youth also were more likely than blacks to be married, but no more likely to be parents. Dropouts (39%) were more likely than both graduates (24%, p<.05) and ageouts (5%, p<.05) to report raising families as a reason for not looking for work. Graduates from secondary school were more likely than dropouts not to look for work because of school or training (30% vs. 6% and 12%, p<.05). Finally, ageouts were far more likely to cite the severity of disability as a reason for not seeking work than both graduates and dropouts (59% vs. 19% and 20%, p<.05). These data suggest, then, that diverse factors influence youth with disabilities to participate in the labor market.

Table 4-18

REASONS FOR NOT LOOKING FOR A JOB AMONG NONWORKING OUT-OF-SCHOOL YOUTH WITH DISABILITIES

		Gender		Ethnic Background			Secondary School Completion		
Reason for Not Looking for Work	Total	Males	Females	Black	White	Hispanic	Graduate	Dropout	Ageout
Percentage of nonworking youth who were not looking for a job because:									
Youth was not able to work because of disability	25.2 (5.5)	27.0 (8.3)	23.0 (7.2)	33.3 (13.4)	22.1 (6.5)	22.4 (16.8)	18.6 (6.4)	19.6 (10.4)	59.2 (11.4)
Youth was raising a family/working at home	26.7 (5.6)	1.8 (2.5)	42.5 (8.5)	4.9 (6.1)	31.9 (7.3)	36.7 (19.4)	24.4 (7.0)	38.8 (12.8)	4.7 (4.9)
Youth was in school/training program	19.3 (5.0)	23.9 (8.0)	16.3 (6.3)	25.6 (12.4)	16.0 (5.7)	31.3 (18.6)	30.0 (7.5)	6.0 (6.2)	11.8 (7.5)
Youth couldn't get/use transportation	3.7 (2.4)	5.0 (4.1)	3.0 (2.9)	3.8 (5.5)	4.3 (3.2)	0.0 (0.0)	4.5 (3.4)	0.0 (0.0)	10.4 (7.1)
No jobs were available	5.1 (2.8)	11.9 (6.1)	1.0 (1.7)	7.2 (7.4)	5.4 (3.5)	0.0 (0.0)	2.1 (2.3)	9.3 (7.6)	6.9 (5.9)
Youth was waiting to hear about/start a job	.3 (.6)	.6 (1.5)	0.0 (0.2)	0.0 (0.0)	0.4 (1.0)	0.0 (0.0)	0.0 (0.2)	0.0 (0.0)	1.8 (3.1)
Parent or youth didn't want youth to work	11.7 (4.0)	10.1 (5.6)	12.7 (5.7)	13.7 (9.8)	11.4 (5.0)	5.4 (9.1)	9.8 (4.8)	16.5 (9.7)	7.0 (5.9)
Youth would lose benefits	4.7 (2.7)	11.2 (5.9)	.6 (1.3)	4.6 (6.0)	5.0 (3.4)	3.8 (7.6)	3.6 (3.0)	6.7 (6.6)	4.3 (4.7)
Other	12.4 (4.1)	16.2 (6.9)	10.2 (5.2)	13.7 (9.8)	10.9 (4.9)	26.1 (17.6)	17.5 (6.2)	8.8 (7.4)	3.3 (4.1)
n	459	209	249	100	302	37	297	70	91

Standard errors are in parentheses.

Methods of Looking for Work

Findings related to job search activities bespeak the desire for work among many youth with disabilities who were jobless, but bring home as well the difficulty many of them had in finding employment during the early postschool years. This difficulty also is suggested by the average length of time during which those who were not employed had been searching for work. As Table 4-19 shows, the reported duration of job search was nearly 8 months. Moreover, these were incomplete spells of unemployment; that is, these youth had not yet found the jobs that would cause them to quit looking.

This table also shows the methods of job search used by the unemployed (respondents were able to cite multiple methods). Small cell sizes make it infeasible to display these results by the various disability categories, but overall about 60% of unemployed youth had applied for jobs directly and 40% looked through the newspaper. In short, youth with disabilities were using a diversity of approaches in their search for work.

Table 4-19

JOB SEARCH ACTIVITIES OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES WHO WERE LOOKING FOR WORK

	Percentage	Standard Error
Average number of months unemployed youth who were looking for a job were reported to have been looking	7.6	2.6
n	272	
Unemployed youth who were looking for a job and reported that in the preceding month they had:		
Contacted state/private employment agencies	25.8	7.4
Contacted employers	21.8	7.0
Contacted family/friends for jobs/leads	13.7	5.8
Placed/answered ads	11.2	5.4
Looked in the newspaper	40.2	8.3
Used school employment service	1.7	2.2
Applied for jobs	59.5	8.3
Checked within training program	.8	1.5
Other	2.8	2.8
n	218	

Given the lengthy job searches of unemployed youth with disabilities, it appears reasonable to compare their methods of job search with those of peers who had successfully found work. Thus, parent/student responses to the question "how did [the youth] get his/her job?" are included in Table 4-20. Whereas the survey questions asked of employed and unemployed youth were sufficiently different to make direct comparisons difficult, the table nonetheless shows that employed youth with disabilities tended to rely on their own capabilities as well as those of their friends and family. The "self" category could easily include many of the methods of job search mentioned by unemployed youth: looking in the newspaper, applying for jobs, etc. However, we do note that nonemployed youth were somewhat more likely to have turned to employment agencies than youth who had found work; almost 26% of unemployed youth had contacted state, private, or school-related employment services, compared with 12% of working youth reporting that they had found their job through employment agencies, (p<.10). Perhaps prolonged joblessness encouraged unemployed youth to seek outside help in finding work.

Table 4-20

JOB SEARCH ACTIVITIES OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES WHO WERE EMPLOYED

	Percentage	Standard Error
Methods of job search used by employed youth to find their job:		
Self	60.0	3.7
Family	11.3	2.4
Friends	12.7	2.5
Employment agencies	12.4	2.5
Teacher assisted	4.3	1.5
n	955	

Summary

This chapter has investigated several dimensions of the experiences of youth with disabilities in the labor market 3 to 5 years since leaving secondary school. We have learned that there are many, sometimes contradictory, perspectives on issues related to the postschool success of individuals with disabilities. The realm of employment is no exception. We summarize the results of this chapter by way of the following questions:

- **What were the trends in employment as time passed since youth left high school?**

  We have observed significant improvement for youth with disabilities in a number of major employment outcomes. First, there was an 11 percentage point increase in the overall employment rate: 3 to 5 years after high school, 57% of all youth with disabilities held competitive jobs. Second, we observed an 18 point increase in the percentage of youth with disabilities who were working full-time; 43% of all youth and 75% of employed youth held such full-time positions. Third, there was a 31 percentage point increase in the number of working youth earning more than $6.00 per hour; 40% of competitively employed youth earned these higher wages whereas only 24% earned $4.30 or less hourly. On the other hand, there was little aggregate movement in the types of occupations held by youth with disabilities, as they continued to hold relatively low-status jobs.

- **How did employment outcomes of youth with disabilities compare with the general population of youth?**

  Youth with disabilities and youth in the general population made similar gains in most employment outcomes over the same period of time. Thus, the gap in employment outcomes between the two groups of youth in the early years after secondary school remained substantial 3 years later. For example, youth with disabilities lagged behind the general population in overall employment (57% vs. 69%), whereas full-time employment was similar for both groups of youth (43% vs. 46%). In addition, perhaps because of their greater participation in postsecondary education, youth in the general population experienced a shift toward higher-status occupations (i.e. professional) and away from service occupations that did not occur among youth with disabilities. Youth with disabilities were more likely to hold positions as laborers (26% vs. 8%) and less likely to hold professional (7% vs. 20%) or clerical (9% vs. 27%) jobs.

- **Which youth experienced relatively better or worse employment outcomes?**

  Increases in the rates of employment, full-time employment, and wages were concentrated among youth in only a few disability categories. For example, 71% of youth with learning disabilities held competitive employment, 57% were employed full-time, 45% were earning more than $6.00 per hour—all indicators of success virtually identical to those achieved by youth in the general population. However, few other disability groups had such a degree of success or growth. Youth with visual, hearing, orthopedic, or health impairments or with multiple handicaps were employed at rates ranging from 16% to 47%, representing modest changes in the likelihood of employment from -6 to 7 percentage points.

  In addition, several demographic characteristics appear to remain important 3 to 5 years after high school. First, gender is strongly related to a number of employment outcomes. For example, female youth with disabilities had less favorable outcomes than male peers in the following areas: employment rate (40% vs. 64%), full-time employment (22% vs. 52%), and the number earning more than $6.00 per hour (23% vs. 44%). Further, out-of-work female youth with disabilities were only half as likely to be looking for work as male peers (23% vs. 50%) and 20 times as likely to cite "raising a family" (43% vs. 2%) as the reason for not seeking employment.

Ethnic background, too, exerts an influence on employment-related outcomes 3 to 5 years after high school. We observed a consistent gap between white and nonwhite youth with disabilities. For example, despite a 22 percentage point increase in the numbers of employed black youth (compared with white youth, 8 points; or Hispanic youth, 1 point), 14 percentage points still separated them from white peers (47% vs. 61%). Black youth also were the least likely to hold full-time jobs (30% vs. 47% and 39%) and to earn $6.00 or more per hour (14% vs. 46% and 25%).

Finally, high school completion appeared to be associated with more positive employment outcomes. Graduates from secondary school differed from their peers who dropped out or aged out on the following outcomes: number employed (65% vs. 47% and 37%), growth in employment (12% vs. 5% and 11%), number employed in full-time positions (48% vs. 39% and 21%), growth in wages (35 vs. 27 and 13 percentage points), and those earning more than $6.00 per hour (42% vs. 38% and 26%).

- **What fluctuations in outcomes did youth experience over time?**

  The employment picture for youth with disabilities was by no means static. There was movement both into and out of jobs and between part-time to full-time work. For example, while approximately equal numbers of youth with disabilities were either employed (33%) or not employed (30%) in both 1987 and 1990, many more youth found employment (23%) than lost it (13%). Further, in keeping with the aggregate results, many youth moved into full-time employment from part-time employment (75%), although some youth did move in the opposite direction (20%). In any event, although certainly not for all disability categories, much of this movement was in a positive direction. However, even stable aggregate numbers belie considerable fluctuation in some important outcomes. In the realm of occupations, for example, only small aggregate changes were apparent in the distributions of occupations (e.g., 24% to 26% laborers). However, only 20% of youth who were laborers in 1987 remained so in 1990, indicating that 80% had moved to some other occupational category.

Thus, there appear to be both positive and negative aspects to the employment picture for youth with disabilities 3 to 5 years out of high school. The gains in rates of employment and wages are encouraging, at least for some youth. However, despite the gains in wages, few youth had incomes sufficient to support independent living much above the poverty level. Although most employed youth appeared relatively happy with their work lives and were hopeful about the future, a disturbingly large proportion of nonemployed youth with disabilities were not seeking employment. Therefore, although there has been undeniable progress in some areas, there remains considerable room for improvement in the employment picture of out-of-school youth with disabilities.

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5 A PLACE TO CALL HOME: RESIDENTIAL ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

by Lynn Newman

Young adults in this country increasingly are deferring setting up independent households and are remaining longer in their parents' homes (Wetzel, 1987). For example, in 1960, 43% of young people 18 to 24 years old lived in their parents' homes, compared with 52% in 1989 (U.S. Department of Commerce, 1991). Although this arrangement may be agreeable for a time to those involved, the future can be problematic, particularly for young adults with disabilities. As parents age, their ability to be caretakers of or advocates for their adult children with disabilities wanes and adult children eventually need alternative living arrangements. Parents of youth with disabilities have consistently said that they were concerned about their children's future living arrangements (Mercer and Chavez, 1990).

Despite the trend toward longer residential dependence on families, young adults in the general population achieve residential independence sooner than do those with disabilities. Earlier NLTS analyses showed that 33% of youth in the general population were living independently less than 2 years after secondary school, compared with 13% of youth with disabilities (Newman, 1991). Although it is unreasonable to expect that many youth with disabilities would have sought or achieved full residential independence in just 2 years after secondary school, was independence more common later, as young adults possibly began to feel the need for a "weaning away from the daily protections and restrictions of parental control" (Nisbet, Covert, and Schuh, 1992)? Did youth choose to continue living with their families? What were the characteristics of youth who left their family homes, and into what types of living arrangements did they move? For those not moving into independent living situations, what were the alternative living arrangements chosen by or for youth leaving their family homes? To what extent were youth living in supervised settings, such as a group homes or institutions, or in what often are short-term arrangements, such as rehabilitation centers, shelters for the homeless, or correctional facilities?

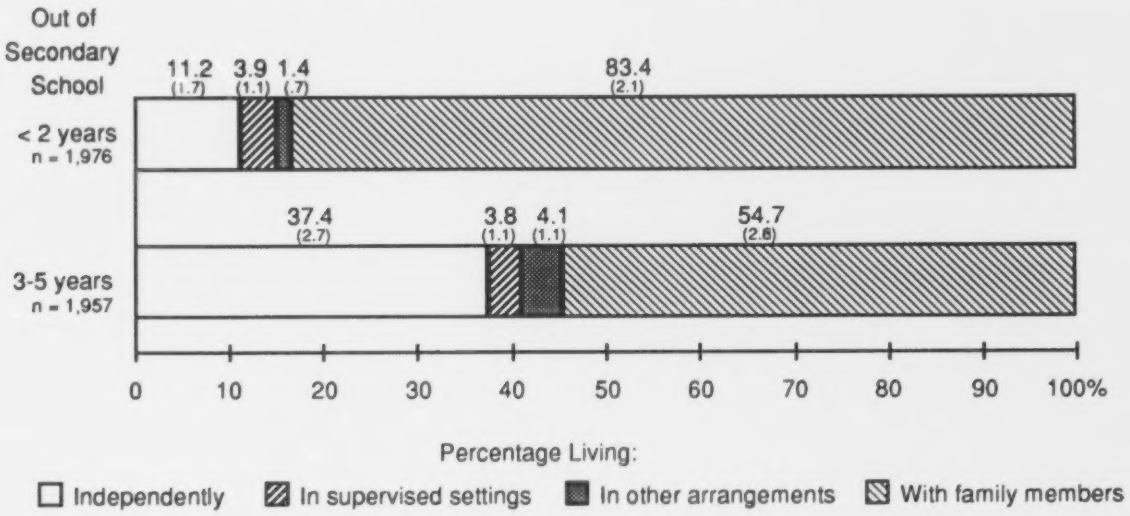
This chapter examines the movement away from family homes by young adults with disabilities who had been out of secondary school 3 to 5 years. The chapter begins with a description of general trends in residential arrangements, focusing on the movement between types of living arrangements. It continues with a discussion of youths' experiences with each of four types of residential arrangement: living with a family member, living in a supervised setting, living in "other" residential arrangements, and living independently. Some of the factors related to residential independence are examined, as well as fluctuations in residential independence over time. Finally, we focus on a description of the extent to which parents' expectations for future residential independence when youth had been out of school less than 2 years were borne out in the subsequent 3 years.

Trends in Residential Arrangements

To learn about residential arrangements, parents were asked in both the 1987 and 1990 interviews "Where does (NAME OF YOUTH) live now?" If parents asked, they were instructed to indicate the place the youth usually spent at least 5 nights a week. There were 16 response categories to this item, ranging from living with parents to living in a shelter for the homeless. After review, the categories were collapsed into four types of residential arrangement: living independently, living with a family member, living in a supervised setting, or living in another type of arrangement, such as a halfway house or a correctional facility.

Youths' current residential arrangements were assessed when they had been out of secondary school for less than 2 years, and again 3 years later. Here we examine how youths' residential experiences changed over this 3-year period, looking at changes in their experience of the four types of living arrangement and at their movement between the types of arrangement.

As youth with disabilities were out of secondary school for a longer period, independent living was much more common (Figure 5-1). The rate at which youth lived independently was



Difference in rates between 0-2 and 3-5 years after secondary school in living:

Independently 26.2*** In a supervised setting -.1 Other arrangement 2.7 With family member -28.7***

Standard errors are in parentheses.

*** p < .001

FIGURE 5-1 RESIDENTIAL ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

26 percentage points higher 3 to 5 years after high school than earlier (37% vs. 11%; p<.001). Most of the gain in living independently resulted from youth who had previously lived with family members and who left their family homes to begin independent households. Three to 5 years after secondary school, significantly fewer youth were living with their family members than earlier (55% vs. 83%; p<.001). The rate of living in a supervised setting did not change during the first 5 years after high school, while the rate of living in other residential arrangements increased slightly (from 1% to 4%; p<.05).

Looking at the movement between residential categories corroborates the strong gains in independent living and the concomitant decrease in family living arrangements we saw in Figure 5-1. As indicated in Table 5-1, 33% of youth who had lived with family members less than 2 years after school were living independently 3 years later. Although this movement from family home to residential independence was the most frequently occurring change, other changes also were common during this 3-year period. Nineteen percent of youth who had lived independently less than 2 years after school had returned to their family home 3 years later. Eighteen percent of those who had previously lived in supervised settings also had returned home, while 19% of those who had lived in supervised settings had moved to independent residential arrangements by 3 to 5 years after school.

Despite the trend toward greater residential independence, only slightly more than one-third (37%) of youth had achieved residential independence by the time they had been out of

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Table 5-1

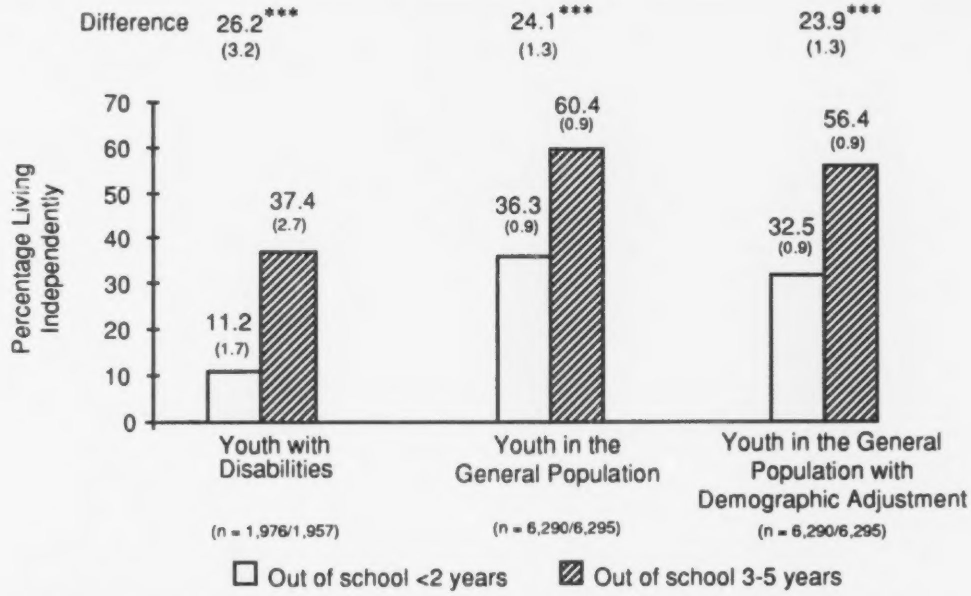
CHANGE IN RESIDENTIAL ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

	Percentage of Youth 3-5 Years Out of Secondary School Whose Type of Residential Arrangement Was:			
Residential Arrangement 0-2 Years After School was:	Independent	Supervised Setting	With Family Member	n
Independent	77.9 (7.2)	0.3 (1.0)	19.3 (6.9)	218
Supervised setting	19.1 (10.4)	59.9 (12.9)	18.1 (10.2)	113
With family member	32.6 (2.9)	1.6 (0.8)	61.9 (3.0)	1,600

Standard errors are in parentheses.

school 3 to 5 years, whereas more than one-half (55%) continued to live in their parents' homes. As indicated in Figure 5-2, this level of residential independence among youth with disabilities was significantly below that of youth in the general population. About 60% of youth in the general population were living independently (p<.001), on the basis of data from the NLSY. Even when demographic differences were accounted for, youth with disabilities were less likely to be living on their own: 37%, compared with 56% of youth who were similar in their distribution on gender, head of household education, and ethnic background (p<.001).

Although the rate of living independently was lower for youth with disabilities than for those in the general population, both groups had similar gains during the 3-year measurement period (a 26 percentage point gain for youth with disabilities and 24 percentage points for youth in general). Because youth with disabilities were less likely to live independently when they were out of school less than 2 years (11%, vs. 36% in the general population), the gap thus remained 3 years later. Three to 5 years after secondary school, youth with disabilities had reached the level of living independently shown by youth in the general population 3 years earlier (37% of youth with disabilities lived independently 3 to 5 years after school, compared with 36% of youth in the general population who lived independently less than 2 years out of school.)



Note: Data for the general population come from the 1979-1986 National Longitudinal Survey of Youth. General population is adjusted to match youth with disabilities for gender, ethnic background, and head of household's educational level.

Standard errors are in parentheses.

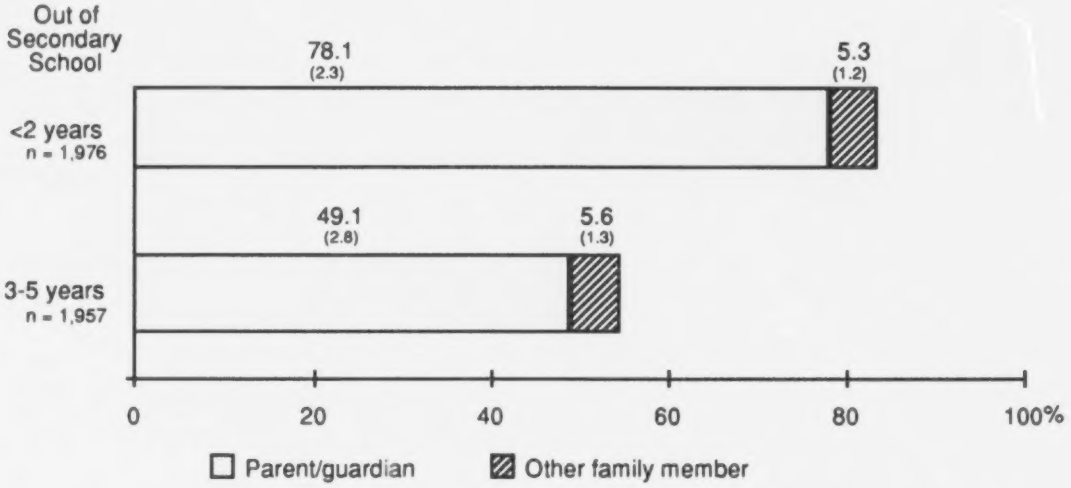
*** p < .001

FIGURE 5-2 RESIDENTIAL INDEPENDENCE OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES AND YOUTH IN THE GENERAL POPULATION

Living with Family Members

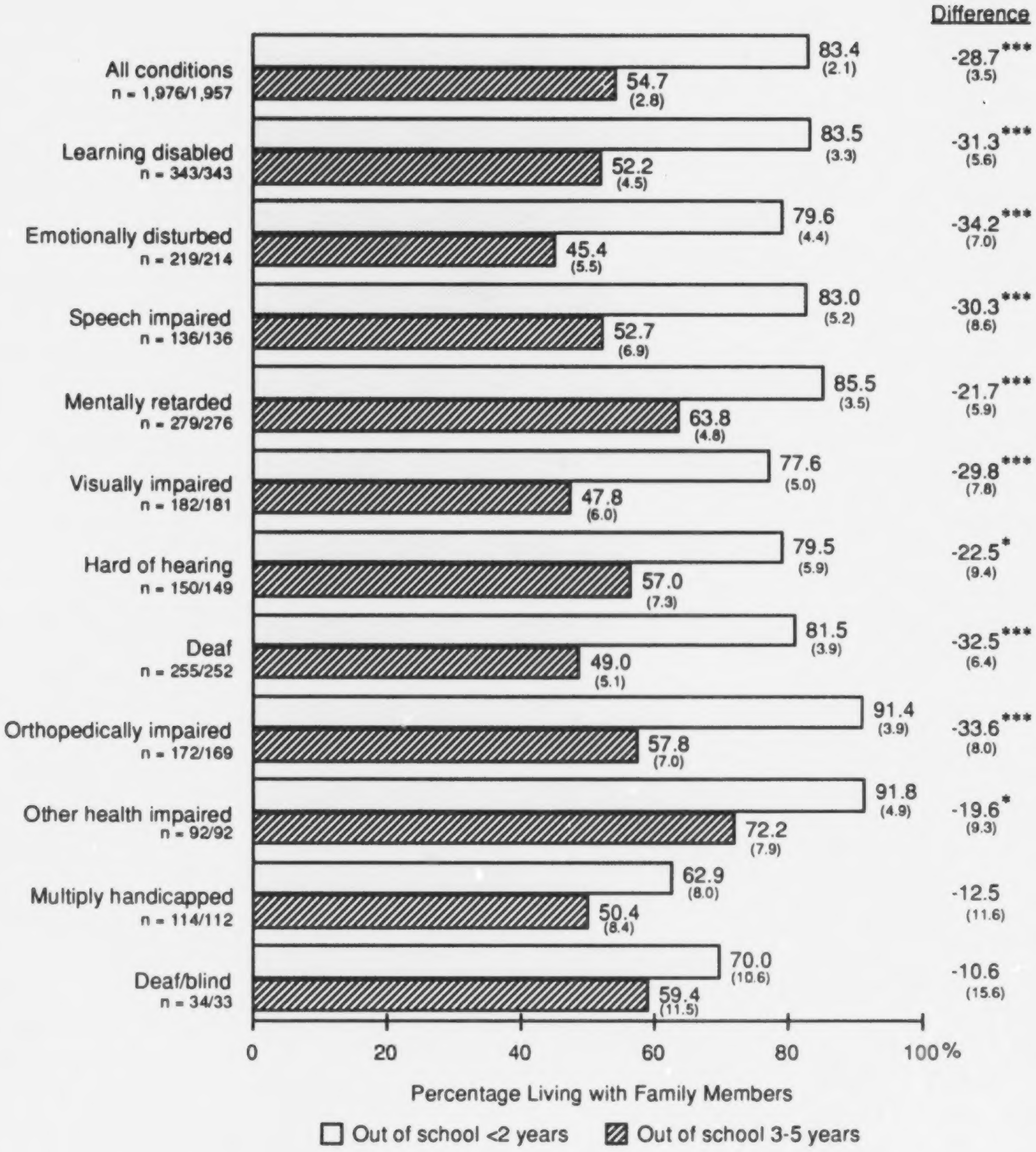
As mentioned above, the majority of out-of-school youth with disabilities continued to live with family members. At both periods of time studied in the NLTS, youth with disabilities who lived with family members after secondary school were overwhelmingly more likely to be living with parents or guardians than with other adult family members, such as grandparents or adult siblings. Less than 2 years after school, 83% lived with family members—78% with parents or guardians, 5% with other family members (Figure 5-3). Three years later, 55% lived with family members—49% with parents or guardians, 6% with other family members. The decline over time in the rate at which youth lived with family members was due primarily to fewer youth living with parents/guardians; the percentage living with other family members remained constant over the 3 years.

As we have seen, it was common for youth with disabilities to be moving away from their family homes to begin independent households; the rate of living with family members declined by 29 percentage points (p<.001). This trend was consistent for youth in all disability categories and was statistically significant for most (Figure 5-4), although the rate of decline in family living varied somewhat. For example, there was a 34 percentage point decline in the extent of living with family members among youth with severe emotional disturbances (80% to 45%; p<.001), and a 20 percentage point decline among youth with other health impairments (92% to 72%; p<.05).



Standard errors are in parentheses.

FIGURE 5-3 PERCENTAGE OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES LIVING WITH FAMILY MEMBERS



Standard errors are in parentheses.

* $p < .05$, *** $p < .001$

FIGURE 5-4 LIVING WITH FAMILY MEMBERS AMONG OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

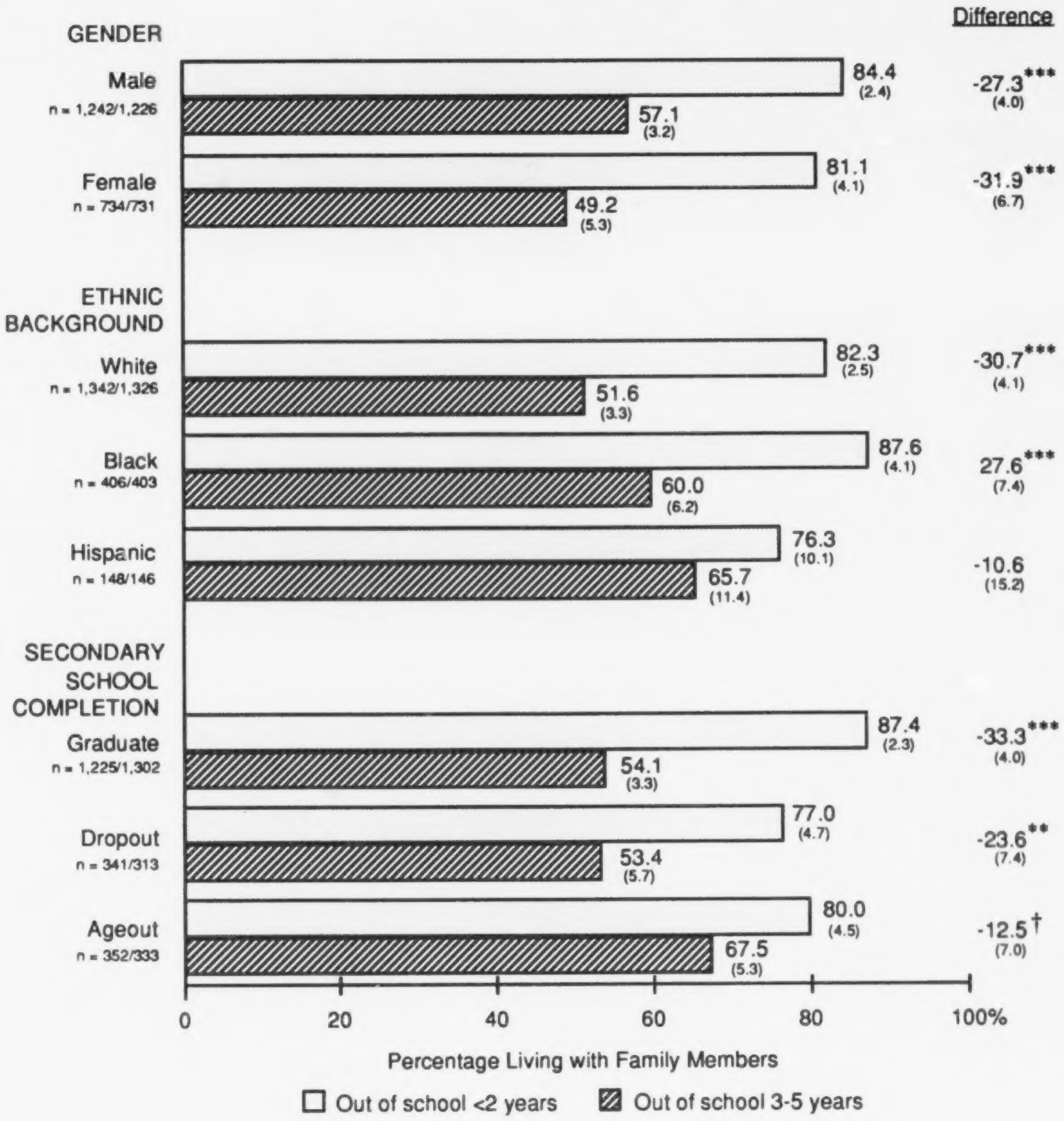
Although youth in most disability categories were less likely to be living with their families 3 to 5 years after school than 3 years earlier, there continued to be significant differences between disability categories in the frequency of living with family members. For example, 72% of youth with other health impairments lived with family members, compared with 52% of youth with learning disabilities ($p<.05$); 64% of youth with mental retardation lived with family members, compared with 45% of those with serious emotional disturbances ($p<.05$). Those classified as other health impaired (72%) and mentally retarded (64%) were significantly more likely than youth in most other disability categories still to be living at home 3 to 5 years after school.

Declines in living with family members also were large and consistent for youth who varied in gender, ethnic background, and school completion status. For example, as indicated in Figure 5-5, the rate of living with family members declined by 27 percentage points ($p<.001$) for young men with disabilities, and 32 percentage points ($p<.001$) for young women. Similarly, declines were 31 percentage points ($p<.001$) and 28 percentage points ($p<.001$) for white and black youth, respectively. With these declines, 3 to 5 years after leaving school, there were no significant differences in the rates at which youth of different genders and ethnic backgrounds were living with family members.

Youth who had graduated from high school showed a 33 percentage point decline in living with family members ($p<.001$), and there was a 24 point decline among those who had dropped out ($p<.01$). Those who had aged out showed the smallest decline, 12 percentage points ($p<.10$). Although when they had been out of secondary school less than 2 years, all youth were about equally likely to be living with family members, 3 to 5 years after leaving school, youth who had aged out of high school were significantly more likely to be doing so (68%) than youth who had graduated (54%; $p<.05$) or dropped out (53%; $p<.10$).

Although residential independence may be an eventual goal parents and/or youth hold for young people with disabilities, having youth remain in the family home in the early years after secondary school may be a satisfactory arrangement for many families. How did youth who were still living at home and their parents feel about this living situation? Would the youth and/or their parents choose to have the youth move from the family home, or were parents and/or youth satisfied with their family living situations?

To learn about their views of this living arrangement, parents of youth still living at home were asked, “Do you want your child to be living there now, or do you wish he/she could live somewhere else?” Youth who were capable of responding for themselves also reported their satisfaction with their family living arrangement by answering whether they wanted to be living with their parent(s) or whether they would rather live somewhere else.



Standard errors are in parentheses.

† p < .10, ** < .01, *** p < .001

FIGURE 5-5 LIVING WITH FAMILY MEMBERS AMONG OUT-OF-SCHOOL YOUTH, BY YOUTH CHARACTERISTICS

Overall, parents were more acceptant of having their young adult children with disabilities remain in the family home than were youth (Table 5-2). Three-fourths of parents of youth still living at home 3 to 5 years after school wanted their children to live there at that time. Youth were much less enthusiastic about remaining at home with their parents; only 41% wanted to be still living at home (vs. 74% for parents; p<.001). More than half of young adults (59%) living with parents reported that they would prefer living somewhere else (vs. 24% of parents wanting their child to live elsewhere; p<.001).

Table 5-2

FEELINGS ABOUT YOUTH'S LIVING WITH PARENTS, AT 3 TO 5 YEARS AFTER SECONDARY SCHOOL

(Percent)

	Parents	Youth
Wants youth to live with parents	74.5 (3.6)	41.4 (5.5)
Wants youth to live somewhere else	23.6 (3.6)	58.6 (5.5)
n	880	433

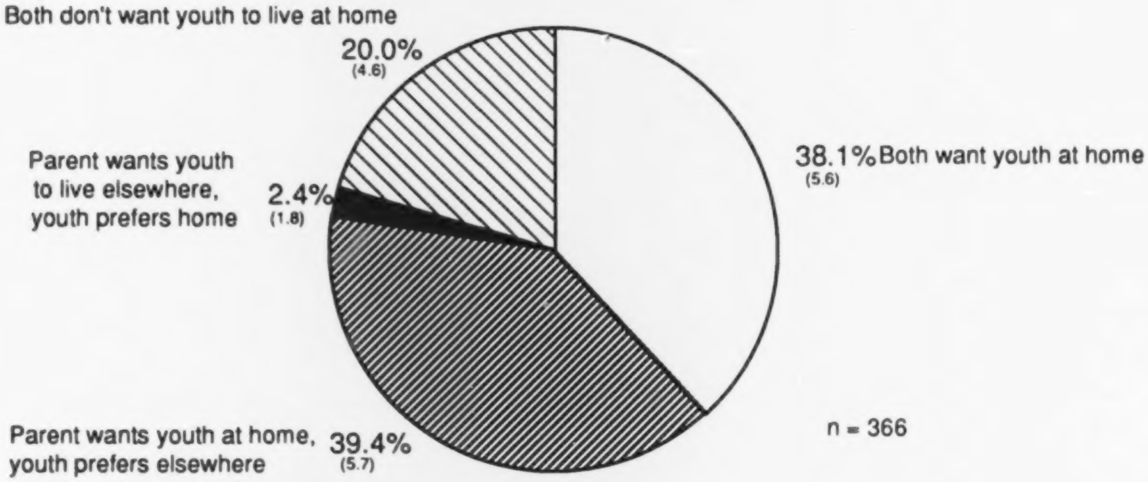
Standard errors are in parentheses.

Initially, we suspected that these differences between parents' and youths' views might result from differences in the disabilities represented by parent and youth respondents. Only youth able to respond for themselves were asked their satisfaction with their family living arrangement; more severely impaired youth generally were not interviewed. In contrast, all parents were asked about their satisfaction with having their young adult children at home, including parents of more severely impaired youth. Parents of youth with more severe disabilities might have been particularly acceptant of their children's remaining at home, whereas youth with less severe disabilities might have been more eager to live elsewhere.

Yet when responses were limited to families in which both youth and parent responded, we continued to see the same differences in parent and youth attitudes. Again, about three-fourths (77%) of parents wanted youth to live at home, whereas 40% of young people with disabilities in the same families wanted to remain at home (p<.001). These differences in attitude between parents and children were consistent across disability categories, as well as for youth who varied in gender, ethnic background, and school-leaving status. Interestingly, Parents of dropouts who still were living at home were more likely to want the youth to live somewhere else than were parents of graduates (38% vs. 17%; p<.05). Youth themselves differed from each other in similar ways, with 73% of those who had dropped out wanting to live somewhere else, compared with 51% of those who had graduated (p<.10).

Shifting our focus to the overlap in responses between individual sets of parents and youth (Figure 5-6), we find that 38% of the family living arrangements were mutually agreeable, with both parent and youth wanting the youth to live at home, whereas 20% of the living arrangements were mutually unsatisfactory, with neither parent nor youth wanting to live together. When there was disagreement, it was more common for the parent to want the youth to live at home and the youth to prefer to live elsewhere (39%) than vice versa (2%; p<.001).

Despite the general parental acceptance of young adult children with disabilities remaining in their family homes, at least in the short term, there continues to be a future concern for families and for society as a whole. As time passes, many youth still living at home will however, parents differed from each other based on the school-leaving status of their children.



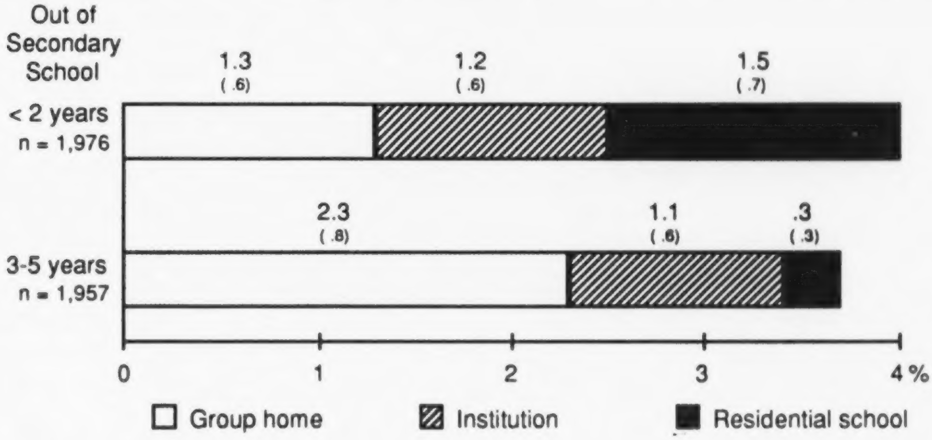
Standard errors are in parentheses.

FIGURE 5-6 PARENT AND YOUTH OVERLAP IN FEELINGS ABOUT YOUTH LIVING AT HOME

become independent, but some will not because they cannot. As discussed in the following section, few youth were living in supervised situations in the early years after secondary school. Are there enough supervised arrangements available to be viable alternatives to the family home for youth who might need them as they and their families age?

Living in Supervised Settings

Very few youth with disabilities (4%) were living in supervised settings when they had been out of school less than 2 years, with no significant change as youth were out of school longer (4%; Figure 5-7). Group homes were the most frequently reported type of supervised setting 3 to 5 years after school (2%), compared with institutions for those with disabilities (1%)* and residential schools (.3%). Similar to earlier NLTS findings (Newman, 1991), youth with more severe impairments, such as those classified as multiply handicapped (36%; $p<.01$) or deaf/blind (32%; $p<.05$), were most likely to be in a supervised setting 3 to 5 years after secondary school (Figure 5-8). There were no significant differences related to gender, ethnic background, or school-leaving status in the rate of living in supervised settings at either time point, or in the amount of change over the 3 years.



Standard errors are in parentheses.

FIGURE 5-7 PERCENTAGE OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES LIVING IN SUPERVISED SETTINGS

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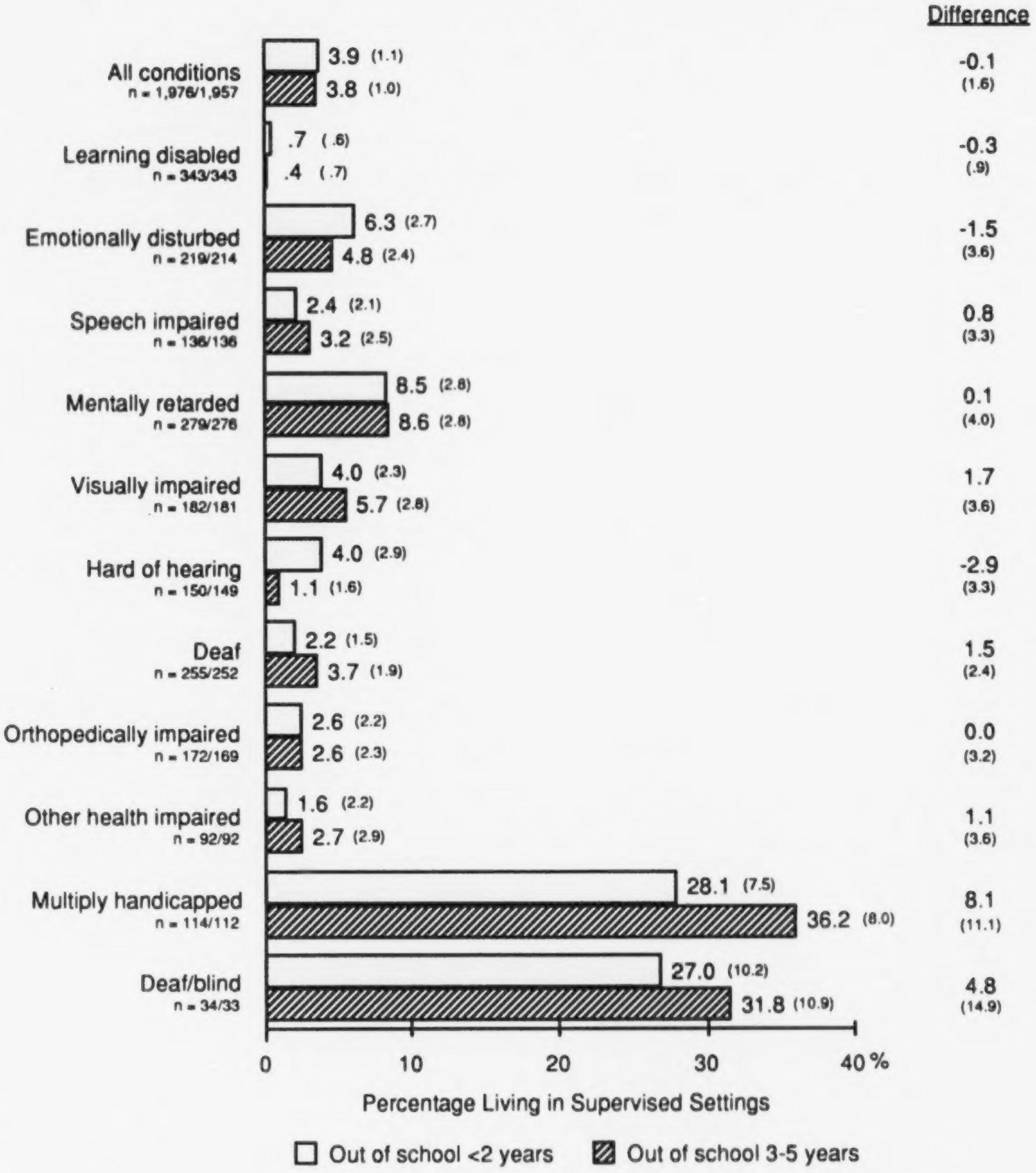
* Readers should note that the NLTS may underestimate to an unknown degree the extent to which youth with disabilities were living in institutions for those with disabilities. Because the NLTS primarily has a school-district-based sample, it includes youth who were on school district rosters of special education students, even if they were out-placed to institutions (with the exception of youth in the deaf and visually impaired categories; they were sampled directly from state-operated residential schools as well as from school districts). Some youth with disabilities may have been placed in institutions independently by parents and, therefore, were not included on rosters of the school districts that might otherwise have served them and were not included in the NLTS.



Standard errors are in parentheses.

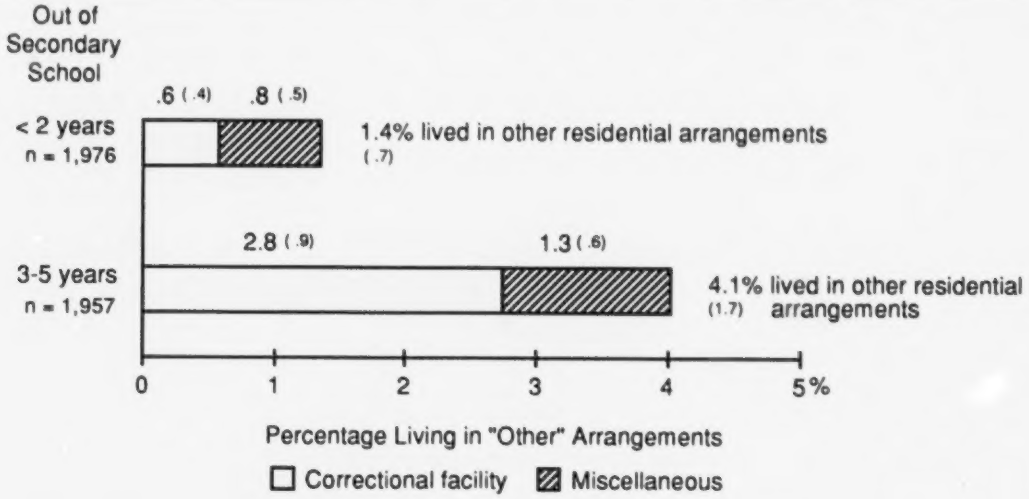
FIGURE 5-8 LIVING IN SUPERVISED SETTINGS AMONG OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

Were so few living in supervised settings by choice or was there a sizable unmet need for supervised living arrangements? We explored the issue of whether families were trying to arrange for youth to live in supervised settings with a focus on one type of setting: group homes. Fewer than 6% of youth with disabilities as a whole had ever lived in group homes, although the number was much greater for those with severe handicaps; 32% of youth categorized as deaf/blind, 26% of youth with multiple impairments, and 14% of those categorized as mentally retarded had at some time lived in group homes. About one-third (30%) of those living in group homes had lived there since high school. Almost 39% of youth who had been living in a group home 3 to 5 years after school also had been living in group homes 3 years earlier.

Almost 7% of parents whose children had never lived in group homes were trying to arrange this type of residential placement. This number increased to 12% for youth with more severe disabilities, such as those with multiple handicaps or who were deaf/blind. One out of five families trying to find a supervised group home were on waiting lists when interviewed.

Living in "Other" Residential Arrangements

Those reported to be living in "other" types of living arrangement (4%) were living in a wide range of situations, from correctional facilities, shelters for the homeless, halfway houses, drug rehabilitation centers, and runaway centers, to job-related housing, such as being a live-in nanny or traveling with a play. Correctional facilities were the most commonly reported type of "other" residential arrangement (3%; Figure 5-9).



Standard errors are in parentheses.

FIGURE 5-9 PERCENTAGE OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES IN OTHER LIVING ARRANGEMENTS

Most of these "other" arrangements were temporary or short-term; none of the youth living in shelters, halfway houses, or drug rehabilitation centers at the time of the second interview had lived in this type of setting at the first interview. Only among those living in correctional facilities had anyone reported being incarcerated at both time points; of those living in correctional facilities 3 to 5 years after secondary school, only 16% had been living in correctional facilities 3 years earlier.

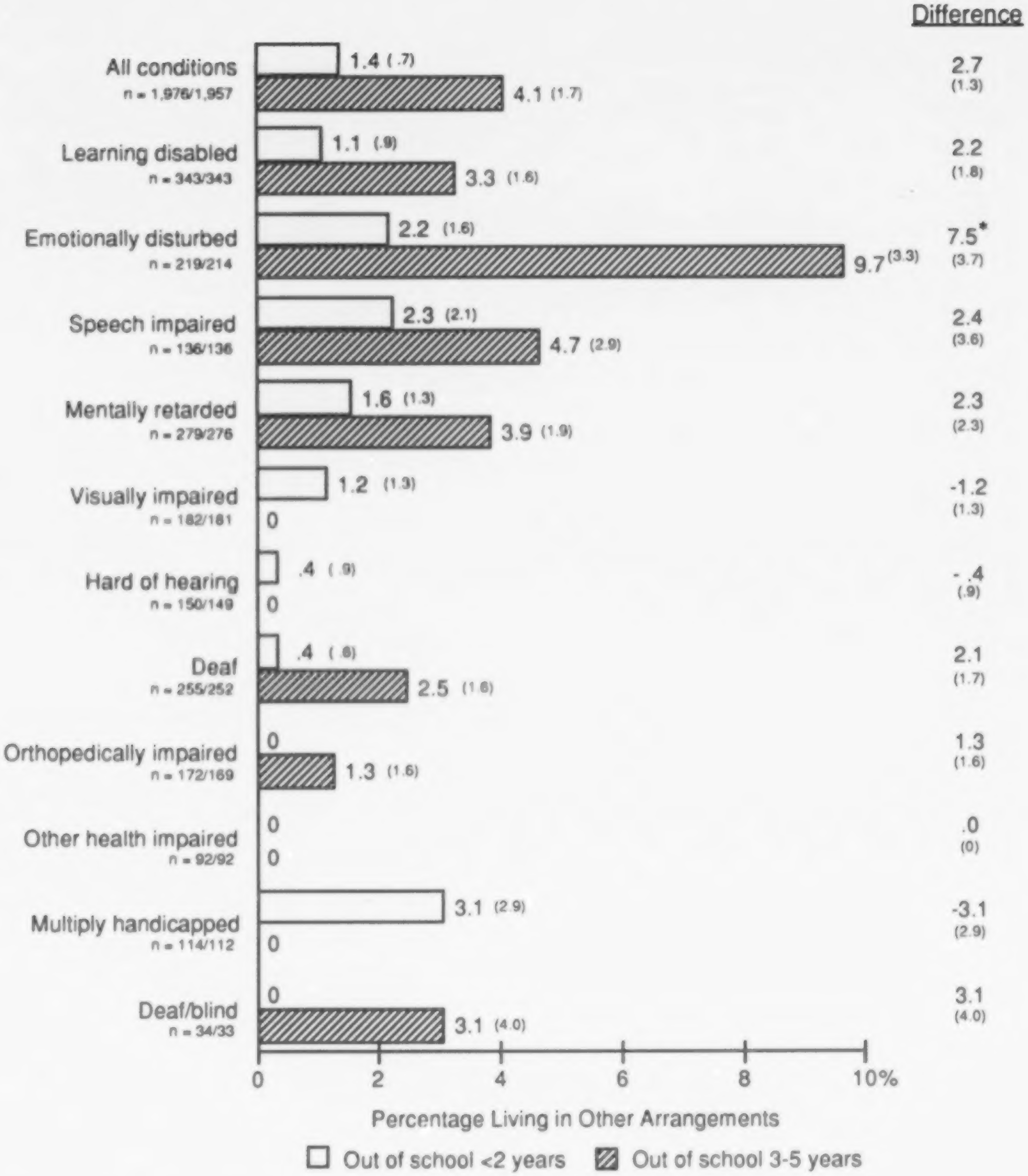
Although only a small percentage of youth were living in other residential arrangements at either time period (1% less than 2 years after school and 4% later), the 3 percentage point increase was a significant difference (p<.05; Figure 5-10). With most youth who were living in other residential arrangements being in correctional facilities, this increase is consistent with the increase in the arrest rate reported in Chapter 6. Those with higher arrest rates reported significant increases in this type of living arrangement, including youth with serious emotional disturbances (an 8 percentage point increase; p<.05), males (a 4 percentage point increase; p<.05), those who were black (a 9 percentage point increase; p<.05), and those who had dropped out of school (a 6 percentage point increase; p<.05) (Table 5-3).

Living Independently

The ability to live independently has often been cited as an indicator of successful adjustment to adulthood (e.g., Affleck et al., 1990). As we have shown, young adults with disabilities experienced strong gains in residential independence. Only about 1 in 10 youth (11%) were living independently when they had been out of secondary school less than 2 years; 3 years later, more than one-third (37%) had independent residential arrangements, a 26 percentage point increase (p<.001; Figure 5-11).

Those living independently included youth who were living alone, with a spouse or roommate, in a college dormitory, or in military housing. Living with a spouse or roommate showed the largest increase in the 3 years (19 percentage points; p<.001), followed by those living alone (6 percentage points; p<.001), with little change in the frequency of youth living in college dormitories or military housing. More than two-thirds of those living with a spouse or roommate were married, engaged, or living with a roommate of the opposite sex.

When they had been out of school less than 2 years, youth living independently were most likely to be living with spouses or roommates. This also was the case when they had been out of school 3 additional years, with 28% of all out-of-school youth living with spouses or roommates. Slightly more than 7% lived alone, 1% lived in military housing, and 1% in college dormitories. The increase in the rate of youth living with spouses or roommates is consistent with the significant increase in the percentage of youth who were married (Chapter 6). In addition, the wages reported for employed youth (Chapter 4) suggest that many young adults with disabilities may have been living with roommates, rather than living alone, because of financial constraints. In addition, for youth in some disability categories, roommates might have provided needed assistance with daily living tasks (Smith, 1990).



Standard errors are in parentheses.

* $p < .05$

FIGURE 5-10 OTHER LIVING ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

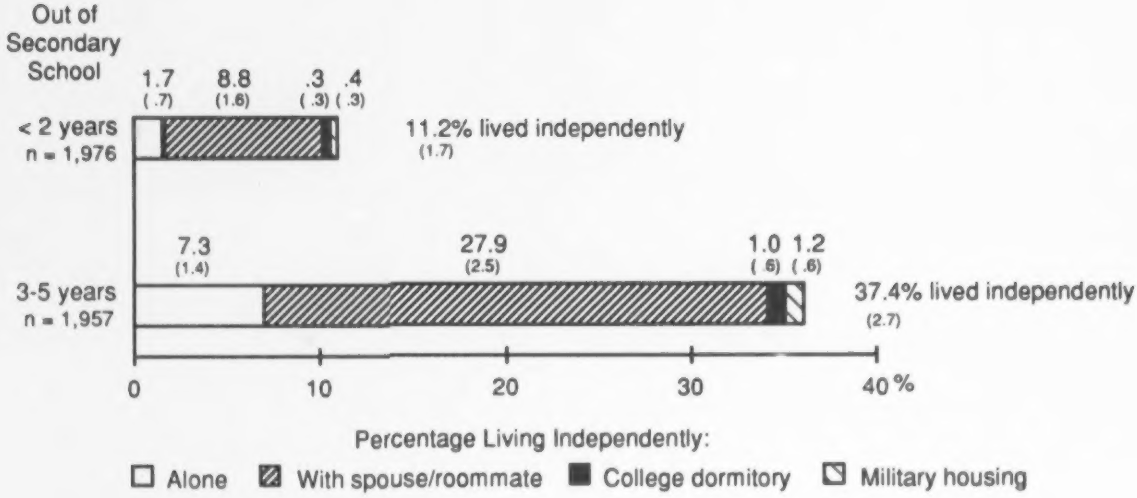
Table 5-3

OTHER LIVING ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

Youth Characteristics	Percentage Living in Other Residential Arrangements When Youth Were Out of Secondary School		Difference Between	n
	<2 Years	3-5 Years	<2 and 3-5 Years	
Gender				
Male	1.3	5.4	4.1*	1,242/1,226
	(0.7)	(1.5)	(1.7)	
Female	1.6	1.3	-0.3	734/731
	(1.3)	(1.2)	(1.8)	
Ethnic background				
White	1.1	2.1	1.0	1,342/1,326
	(0.7)	(0.9)	(1.1)	
Black	1.9	11.0	9.1*	406/403
	(1.7)	(3.9)	(4.3)	
Hispanic	3.1	1.6	-1.5	148/146
	(4.1)	(3.0)	(5.1)	
Secondary school completion status				
Graduate	0.3	1.7	1.4	1,225/1,302
	(0.4)	(0.8)	(0.9)	
Dropout	3.4	8.9	5.5*	341/313
	(2.0)	(3.3)	(3.9)	
Ageout	0.3	1.9	1.6	352/333
	(0.6)	(1.6)	(1.7)	

Standard errors are in parentheses.

* p<.05

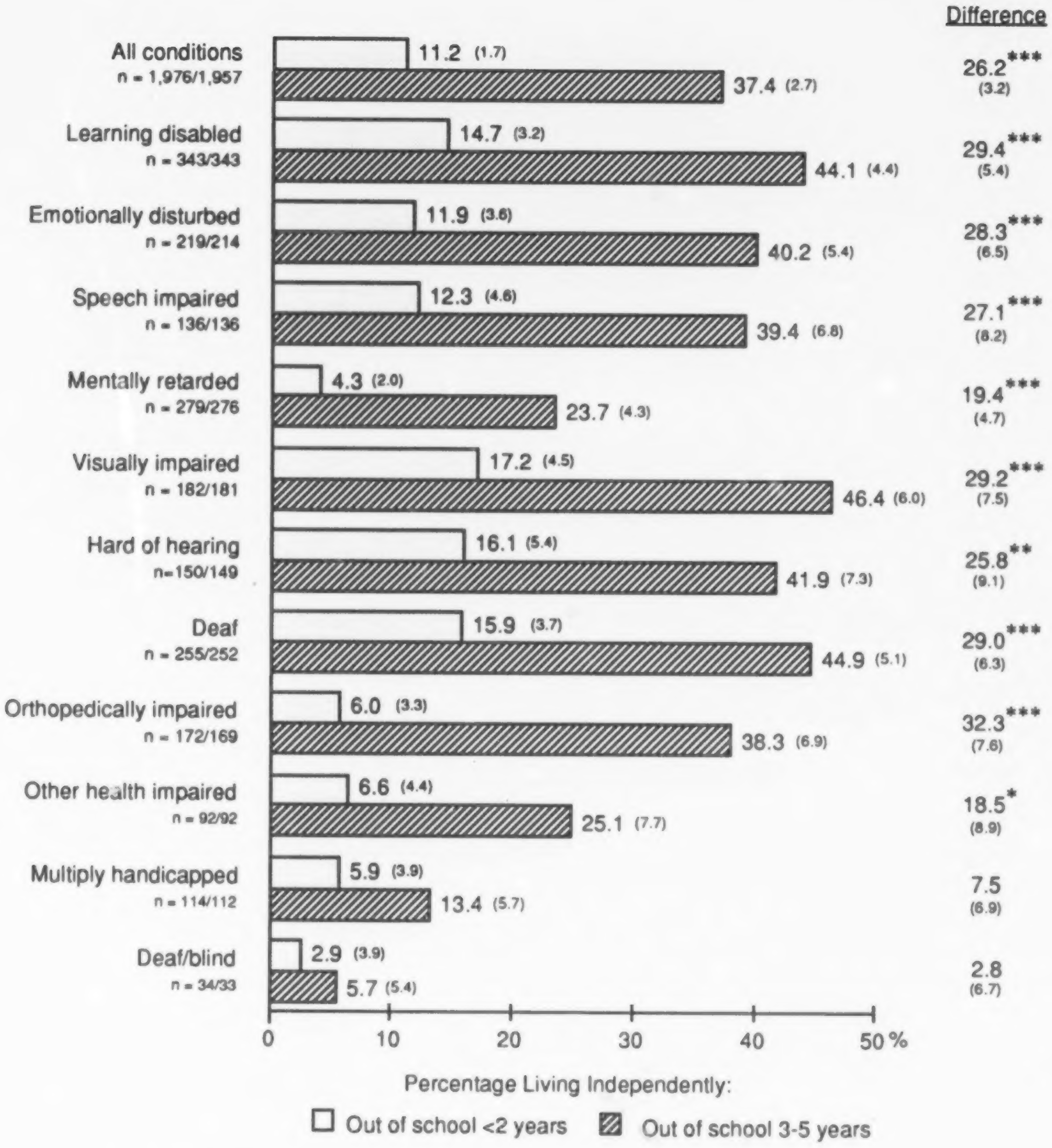


Standard errors are in parentheses.

FIGURE 5-11 PERCENTAGE OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES LIVING INDEPENDENTLY

Youth in all disability categories experienced gains in residential independence, although for those categorized as multiply handicapped or deaf/blind, gains were not statistically significant. As indicated in Figure 5-12, youth classified as orthopedically impaired experienced the largest gains (32 percentage points; p<.001), whereas those with other health impairments showed the smallest statistically significant gain (18 percentage points; p<.05).

Rates of living independently continued to differ between two distinct groups of youth. Between 38% and 46% of youth in most of the disability categories were living in independent arrangements 3 to 5 years after school. Youth in four disability categories—those classified as other health impaired, mentally retarded, multiply handicapped, or deaf/blind—had significantly lower rates of residential independence, ranging from 6% for youth classified as deaf/blind (vs. youth with learning disabilities, p<.001) to 25% for youth classified as other health impaired (vs. youth with learning disabilities p<.05).



Standard errors are in parentheses.

* $p < .05$, ** $p < .01$, *** $p < 001$

FIGURE 5-12 INDEPENDENT LIVING ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

Both males and females experienced significant increases in residential independence (Table 5-4). However, across all disability categories, females were more likely to be living independently than males 3 to 5 years after school (45% vs. 34%; p<.10). This gender difference in the rate of living independently relates to the difference in marriage rates for males and females. As reported in Chapter 6, women were twice as likely as men to be married or living with someone of the opposite sex when they had been out of school 3 to 5 years. Youth who were married were significantly more likely than those who were single to be living independently (86% vs. 22%; p<.001). When controlling for marriage, we see no

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Table 5-4

TRENDS IN INDEPENDENT LIVING OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

Youth Characteristics	Percentage Living Independently When Youth Were Out of Secondary School <2 Years	3-5 Years	Difference Between <2 and 3-5 Years	n
Gender				
Male	10.4 (2.0)	34.2 (3.1)	23.8*** (3.7)	1,242/1,226
Female	13.1 (3.6)	44.8 (5.2)	31.7*** (6.3)	734/731
Ethnic background				
White	13.4 (2.2)	42.3 (3.2)	28.9*** (3.9)	1,342/1,326
Black	5.1 (2.8)	25.5 (5.5)	20.4*** (6.2)	406/403
Hispanic	15.2 (8.5)	31.1 (11.1)	15.9* (14.0)	148/146
Secondary school completion status				
Graduate	9.9 (2.0)	40.8 (3.3)	30.9*** (3.9)	1,225/1,302
Dropout	15.2 (4.0)	35.0 (5.5)	19.8** (6.8)	341/313
Age out	6.7 (2.8)	21.9 (4.7)	15.2** (5.5)	352/333

Standard errors are in parentheses.

* p<.05, ** p<.01, *** p<.001

difference in the rates of females and males living independently. Eighty-six percent of married men lived independently, compared with 85% of married females, and 21% of single males lived independently, compared with 25% of single females, not significant differences.

Gains in independent living also were experienced by youth in all ethnic groups (although the increases were not statistically significant for Hispanic youth). However, gains were largest for white youth so that, 3 to 5 years after secondary school, white youth were significantly more likely than those who were black to be living independently (42% vs. 26%; p<.01).

Graduates, dropouts, and ageouts also gained residential independence, although some experienced larger gains than others. When they had been out of secondary school for less than 2 years, dropouts were more likely than graduates to be living independently (15% vs. 10%; p<.10). Three years later, graduates showed a significantly larger gain in residential independence than did dropouts; a 31 percentage point increase for graduates, compared with a 20 percentage point increase for dropouts (p<.05). With the strong gains made in independent living by graduates, dropouts were no longer more likely to be living independently 3 to 5 years after school. Those who aged out were significantly less likely than either graduates (22% vs. 41%, p<.001) or dropouts (35%, p<.10) to be living independently. The relationship between living independently and secondary school completion was consistent across all disability categories.

We note interesting interrelationships between secondary school completion and gender. Gender differences in living independently prevailed for dropouts from secondary school; women dropouts were significantly more likely to be living independently than male dropouts (56% vs. 27%; p<.05). In addition, gender and dropping out interact with living independently in opposite ways. Male dropouts were less likely to be living independently than male graduates (27% vs. 40%; p<.10), whereas female dropouts were more likely to be living independently than female graduates (56% vs. 43%; although not significant because of small sample size). These differences might be due in part to the reasons why young men and women dropped out of school. Almost one-quarter (23%) of young women who dropped out of school were reported by their parents to have left school because of marriage and/or pregnancy, while only 1% of young men were reported to have left school because of marriage. As mentioned earlier, youth who were married were more likely to be living independently.

Graduating from secondary school, on the other hand, relates to residential independence in similar ways for men and women, with 43% of female graduates and 40% of male graduates living independently.

Fluctuations in Residential Independence Over Time

Thus far, we have looked at trends in residential arrangements of youth with disabilities, examining their experiences when they were out of secondary school for less than 2 years and again 3 years later. Yet residential status is not a steady state. Youth who were living independently in the early years after high school might not be the same ones living independently later on. For example, those living independently in a college dorm at the time of the first interview might have left postsecondary school and returned to live at home by the second interview. Even if youth were independent at both points, they were not necessarily independent the entire time. Looking at the pattern of residential independence over time provides insight into the dynamic nature of residential experiences by capturing something about the movement of youth into and out of independent living situations. Table 5-5 describes these patterns, presenting the percentages of youth who lived independently at neither point, youth who lost independence, youth who became independent, and those who lived independently at both points.

As indicated earlier, only a minority of youth with disabilities (11%) were living independently during the first 2 years after high school. With so few living independently when they were first out of school, logically, few could have lived independently at both measurement points (9%). However, for most youth with disabilities whose living arrangements fluctuated over time, the direction of movement was positive, with very few losing independence (2%) and many gaining independence. Corroborating the gains in residential independence we saw earlier, more than 28% of youth established newly independent living arrangements over the 3-year period.

This pattern of movement toward increasing residential independence was consistent for males and females; whites, blacks, and Hispanics; and graduates, dropouts, and those who aged out of school. Yet, as Table 5-6 indicates, there were some differences in the pattern of movement related to youth characteristics. Youth who were black were more likely to have lived independently at either point than those who were white (73% vs. 56%; p<.05). Graduates were significantly more likely to have become independent during the 3-year period (33%) than dropouts (21%; p<.05) or ageouts (19%; p<.05). Both graduates (7%) and dropouts (12%) were more likely to have been living independently at both points than were youth who aged out (3%; p<.05).

Table 5-5

PATTERNS OF RESIDENTIAL INDEPENDENCE OVER TIME OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

(Percent)

	Residential Independence Pattern[a]				
Disability Category	Independent at NEITHER Point	Lost Independence	Became Independent	Independent at BOTH Points	n
All conditions	60.7 (2.7)	2.4 (0.9)	28.3 (2.5)	8.6 (1.6)	1,938
Learning disabled	54.3 (4.5)	2.1 (1.3)	31.2 (4.2)	12.5 (3.0)	336
Emotionally disturbed	56.8 (5.6)	4.1 (2.2)	31.5 (5.2)	7.6 (3.0)	211
Speech impaired	54.7 (7.0)	4.8 (3.0)	34.0 (6.7)	6.5 (3.5)	134
Mentally retarded	74.6 (4.4)	1.9 (1.4)	21.0 (4.1)	2.4 (1.5)	275
Visually impaired	59.3 (6.0)	3.7 (2.3)	33.3 (5.7)	13.7 (4.1)	180
Hard of hearing	51.6 (7.4)	6.4 (3.6)	31.8 (6.9)	10.3 (4.5)	148
Deaf	48.9 (5.1)	6.4 (2.5)	34.8 (4.9)	9.9 (3.0)	251
Orthopedically impaired	59.6 (7.0)	2.5 (2.2)	35.5 (6.8)	2.5 (2.2)	168
Other health impaired	74.9 (7.7)	0 --	18.5 (6.9)	6.6 (4.4)	92
Multiply handicapped	82.8 (6.4)	3.5 (3.1)	10.8 (5.3)	2.8 (2.8)	110
Deaf/blind	91.3 (6.6)	3.1 (4.0)	5.7 (5.4)	0 --	33

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[a] Independent at neither point = not living independently at either 0-2 years or 3-5 years after secondary school.
Lost independence = living independently at 0-2 years but not 3-5 years after secondary school.
Became independent = not living independently at 0-2 years, but was at 3-5 years after secondary school.
Independent at both points = living independently at 0-2 years and 3-5 years after secondary school.

Standard errors are in parentheses.

Table 5-6

PATTERNS OF RESIDENTIAL INDEPENDENCE OVER TIME, BY CHARACTERISTICS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

(Percent)

	Residential Independence Pattern[a]				
Characteristic	Independent at NEITHER Point	Lost Independence	Became Independent	Independent at BOTH Points	n
Gender					
Male	63.3 (3.2)	2.6 (1.1)	26.5 (2.9)	7.5 (1.7)	1,216
Female	54.4 (5.3)	2.0 (1.5)	32.4 (5.0)	11.2 (3.4)	722
Ethnic background					
White	55.5 (3.3)	2.5 (1.0)	30.9 (3.0)	11 (2.1)	1,317
Black	73.0 (6.6)	1.8 (6.4)	22.6 (4.7)	2.6 (4.8)	400
Hispanic	64.9 (11.7)	5.2 (5.5)	21 (10.0)	8.9 (7.0)	144
Secondary school completion status					
Graduate	57.5 (3.3)	1.8 (0.9)	33.4 (3.1)	7.4 (1.7)	1,297
Dropout	63.3 (5.6)	3.2 (2.1)	21.3 (4.8)	12.2 (3.8)	303
Ageout	73.6 (5.0)	4.1 (2.3)	19.4 (4.5)	2.8 (1.9)	330
Pattern of employment[b]					
Employed at neither point	74.9 (4.7)	1.9 (1.5)	20.0 (4.4)	3.2 (1.9)	738
Lost employment	65.2 (6.3)	0.8 (1.2)	29.1 (6.0)	4.9 (2.9)	318
Became employed	49.4 (7.9)	2.9 (2.7)	44.5 (7.9)	3.2 (2.8)	223
Employed at both points	46.3 (5.0)	3.9 (1.9)	32.4 (4.7)	17.4 (3.8)	484

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[a] Independent at neither point = not living independently at either 0-2 years or 3-5 years after secondary school.
Lost independence = living independently at 0-2 years but not 3-5 years after secondary school.
Became independent = not living independently at 0-2 years, but was at 3-5 years after secondary school.
Independent at both points = living independently at 0-2 years and 3-5 years after secondary school.

[b] Employed at neither point = not employed at either 0-2 years or 3-5 years after secondary school.
Lost employment = employed at 0-2 years but not 3-5 years after secondary school.
Became employed = not employed at 0-2 years, but was at 3-5 years after secondary school.
Employed at both points =employed at 0-2 years and 3-5 years after secondary school.

Standard errors are in parentheses.

Although we see large gains in residential independence, it is important to note that a substantial number of youth, 61% overall, did not live independently at either measurement point. As was indicated in Table 5-5, approximately half of those categorized as learning disabled, seriously emotionally disturbed, speech impaired, visually impaired, hard of hearing, deaf, or orthopedically impaired did not live independently at either interview point. Three-fourths of those classified as mentally retarded or other health impaired did not live independently at either time, increasing to 8 or 9 out of 10 youth classified as multiply handicapped or deaf/blind.

As an additional measure of mobility, respondents were asked in 1990 whether the youth had lived anywhere else in the preceding year. One-fourth had had a different living arrangement during that time. When youth changed their living arrangement, they were as likely to become independent as they were to lose their residential independence. Of those who used to live with a family member and subsequently moved, half became independent. Of those who had lived independently in the preceding year and had moved, half had returned to their parents' homes.

Relationships Between Other Youth Competencies and Residential Independence

To live successfully in an independent residential setting, one must also be able to function competently within one's community. Community adjustment is a complex issue, with many interrelated dimensions of personal competence necessary for the integration of individuals with disabilities into the community (Fisher, 1989; Harnish, Chaplin, Fisher, and Tu 1986; McGrew and Bruininks, 1991). We address some of these broad issues of competence and independence within the community in Chapter 7. Here, we look at the relationship of some specific aspects of community living—community living skills, having a driver's license and having financial resources—to residential independence, providing initial insight into some of the competencies that are supportive of residential independence.

Community Living Skills

Parents were asked to assess the community living skills of their young adult children with disabilities by rating on a 4-point scale (from "very well" to "not at all well") how well youth could perform four activities on their own, without help. If a youth had not done an activity, parents were asked to rate how well the youth could do the activity if he/she had the chance. The four activities were: going to a library or community swimming pool, using public transportation to get around town, buying his/her own clothes at a store, and arranging a plane or train trip to go out of town. Youth with disabilities as a group were reported to be fairly competent to perform the first three activities. Three-fourths were rated by parents as performing these activities "very well," with almost 9 out of 10 performing these activities at least "pretty well." Youth were seen as having the most difficulty with arranging a plane or train trip, with only half reported to perform this activity "very well" and 16% to perform it "not at all well." This last activity is a much less common one in the lives of young adults. Lower ratings might be due to the level of difficulty of this activity, to the youths' unfamiliarity with it, or to parents' uncertainty about youths' performance of an activity they had never seen them do.

To obtain a summary measure of community living skills, we summed the four task ratings to form a scale that ranges from 4 to 16. Youths' community living skills were considered high with a scale score of 16 (performed all four tasks "very well"). Youth were rated as having medium/high ability with a score of 12 to 15. Youth with scores of 7 to 11 were considered to have low/medium ability, and ratings of 4 to 6 earned a low score on the scale.*

Examining the relationship of these skills to residential independence, we find that youth who were more capable of performing these community activities were more likely to be living independently. As indicated in Table 5-7, fewer than 1% of youth who received low scores lived independently, compared with 22% of those receiving low/medium scores (p<.001). There continued to be significant differences in the rate of independent living for those receiving higher scores. For example, 35% of those receiving medium/high scores lived independently, compared with 49% of those with the highest score (p<.05). Although possessing community living skills was related to increased residential independence, they are clearly not the only prerequisites for residential independence, with more than half of those receiving independently.

Table 5-7

VARIATIONS IN RESIDENTIAL INDEPENDENCE OF YOUTH WITH DISABILITIES WHO WERE OUT OF SCHOOL 3 TO 5 YEARS, BY COMMUNITY LIVING SKILLS

	Youth Living Independently 3 to 5 years Out of School		
Youth Activities	Percent	Standard Error	n
Youths' community skills were:			
High	48.7	4.7	641
Medium/high	35.1	4.7	573
Medium/low	21.6	5.9	290
Low	0.9	1.4	227
Youth had a driver's license			
Yes	46.5	3.6	909
No	25.6	4.4	662

Having a Driver's License

Although having a driver's license is not necessary for youth to move freely around their communities, especially where public transportation is readily available, being able to drive does facilitate independence. To maintain an independent household, one must be able to shop for food and other household items, activities generally made easier when one can drive. Further, having a driver's license broadens the geographic area one can realistically consider when looking for employment; 61% of youth with disabilities usually drove themselves to work. We find that almost half of youth who had driver's licenses also lived independently, compared with only one-fourth of those without licenses (p<.001; Table 5-7).*

Although both possessing community independence abilities and having a driver's license are positively related to living independently, it is important to note that these skills are confounded with severity of disability. Youth with the lowest functional abilities were least likely to be able to manage these aspects of independence. For example, only 12% of those who received the lowest functional mental skills scores (see Appendix C for information on this scale) received high or medium/high scores on the community living skills scale, whereas 92% of those in the highest functional mental skills categories received high or medium/high scores on this scale (p<.001). However, even among youth who shared the same disability classification, we still see those scoring higher on the community skills scale more likely to be living independently. For example, 46% of youth classified as mentally retarded who received a high score on the scale lived independently, compared with 17% of those who received a low/medium score (p<.05). The relationship between having a driver's license and living independently also continues within disability categories. For example, 50% of youth with learning disabilities who had a driver's license lived independently, compared with 29% of those who did not have a license (p<.05).

Financial Resources

The ability to obtain financial support often is an important precursor to youths' being able to leave their parents' homes and establish independent households. Youths' own employment is one important source of financial support that was found to relate strongly to their ability to live independently when they had been out of school less than 2 years, even when analyses controlled for many other aspects of youth, their household background, and their other activities (Newman, 1991). When youth had been out of school for a longer time, the relationship between residential independence and employment continued.

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* For the distribution of youth with driver's licenses see Appendix C, Table C-2.

Youth who were competitively employed full time were significantly more likely to be living independently (44%) than those not employed (34%; p<.05) (Table 5-8). However, those employed part time and those in sheltered employment were not significantly more likely to be living independently than those not employed; those employed in a sheltered environment were less likely to be living independently than those not employed (7% vs. 34%; p<.001).

Table 5-8

RESIDENTIAL INDEPENDENCE OF YOUTH WITH DISABILITIES WHO WERE OUT OF SCHOOL 3 TO 5 YEARS, BY FINANCIAL RESOURCES

	Youth Living Independently 3-5 Years Out of School		
Youth Activities	Percent	Standard Error	n
Youth was employed:			
Competitive/supported full time	44.3	4.5	571
Competitive/supported part time	39.8	7.7	257
Sheltered	6.6	5.7	805
Not at all	33.9	4.6	158
Hourly wages			
< $3.30	8.2	7.5	95
$3.30 - $4.30	32.8	8.2	178
$4.31 - $6.00	40.4	78.2	272
> $6.00	45.0	6.4	290
Youth received money for living expenses from parents/guardians			
Yes	21.8	4.8	529
No	43.3	3.3	1,264
Marital and employment status			
Married, not employed female	79.4	12.6	92
Single, not employed female	17.2	6.0	328
Married, not employed male	62.0	18.3	36
Single, not employed male	15.1	4.2	465

Youth in sheltered employment were the least likely to be living independently (7%; p<.001), perhaps because of the severity of youths' disabilities; that is, those needing close supervision in their work setting may have been less likely to live without similar supervision. The differences in residential arrangements for those working full time vs. part time might be due to differences in total wages earned by youth in those types of employment, with higher total earnings increasing the ability of youth to support their own households financially.

Whereas the number of hours worked was related to residential independence, hourly wage did not appear to be significantly related (except for those earning less than the minimum wage). Those earning less than $3.30 per hour were the least likely to live independently (p<.01). As indicated in other research (D'Amico, 1991), youth who earned less than the minimum wage tended to be more severely impaired, often those working in a sheltered setting. Once youth earned at least minimum wage, those earning higher hourly wages were not significantly more likely to be living independently.

Employment, like residential status, is not a static activity. Youth both gained and lost employment. How does this fluctuating activity relate to the fluctuating pattern of residential independence? The relationship of changes in employment status to patterns of residential independence were presented in Table 5-6.

We see a close correspondence between changes in employment and changes in residential independence. Youth who were employed at both points were significantly more likely to be living independently at both points (17%) than were youth who had never been employed (3%; p<.001), youth who lost employment (5%; p<.01), and youth who became employed (3%; p<.01). Those who became employed were more likely also to become residentially independent (44%) than were youth who had never been employed (20%; p<.01). Not surprisingly, youth employed at neither point were more likely not to have lived independently at either point than were those employed at both points (75% vs. 46%; p<.001).

Although the ability to maintain a full-time competitive job does much to contribute to youths' finances, employment is not the only source of financial support youth might turn to. Youth also can receive financial support from their parents or spouses and through government programs, such as Social Security, Food Stamps, and Aid to Families with Dependent Children (AFDC). The NLTS did not collect government support information in a way that allowed distinguishing support received specifically by the young adult from support received by the household as a unit. However, to learn about financial support that youth received from parents, parents were asked whether the youth "usually gets money for living expenses from his/her family or guardians."

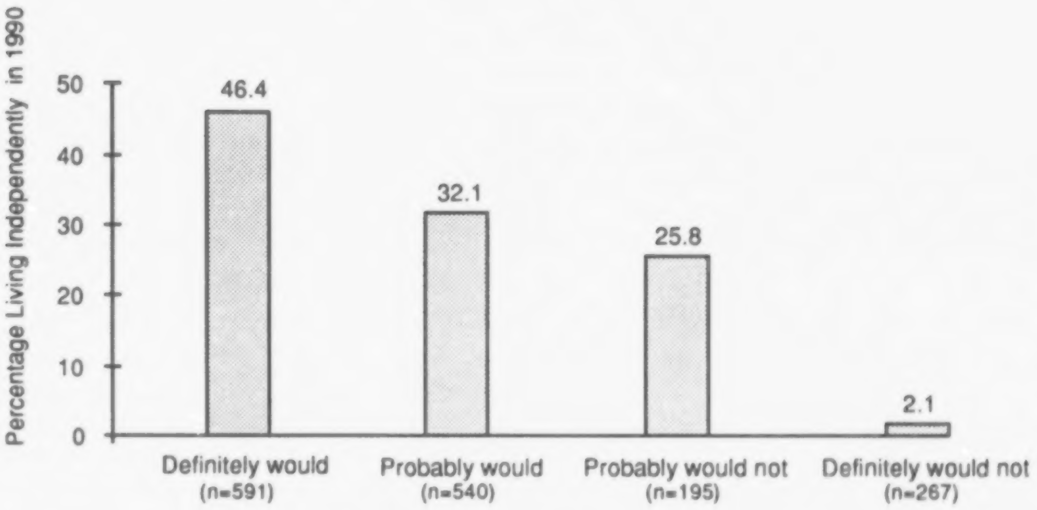
Financial support from families did not appear to be sufficient for youth to be able to live independently. On the contrary, those receiving money for living expenses from parents were less likely to be living independently (22%) than were youth who did not receive family financial support (43%; $p<.001$). Apparently, parents' providing financial support to their young adult children was a corollary of youths' continuing to live at home.

Not surprisingly, unlike parental support, spousal support appears to be related to living independently. Young married women were likely to be living independently, regardless of their employment status. Almost 80% of married women who were not employed lived independently, compared with only 17% of nonemployed single women ($p<.001$). Although living independently and not being employed outside the home was a more common experience for women than for men, men who were married and not employed also were significantly more likely to be living independently than were men who were single and not employed (62% vs. 15%; $p<.001$).

Parent Expectations for Residential Independence

Three to 5 years after secondary school, 37% of all youth with disabilities had achieved residential independence, showing strong gains from 3 years earlier. Yet almost two-thirds were not living independently. What will the future hold for these young adults? Can parent expectations about future residential independence be a "crystal ball" enabling us to look ahead? How realistic are parents' expectations for the future residential independence of their children? To what extent did patterns of residential independence 3 to 5 years after high school meet parents' earlier expectations?

When youth had been out of school less than 2 years, parents of youth still living at home were asked to speculate about the future independence of their children by reporting their perceptions of the likelihood that youth would live away from home, on their own, in the future. Comparing these expectations with reality 3 years later, we find that youth whose parents expected them to become independent were more likely to achieve residential independence. As indicated in Figure 5-13, 46% of youth whose parents thought they definitely would live independently were doing so 3 years later, whereas only 2% of youth whose parents thought they definitely would not live independently were living on their own 3 years later ($p<.001$). Yet, among youth whose parents expected they never would live independently, 2% had proven their parents wrong and achieved the unexpected. However, the vast majority had not. Even among youth with the best prognosis for eventual independence, more than half continued to live at home 3 to 5 years after secondary school. What does the future hold for them as their parents age?



Parents' expectations in 1987 of the likelihood that youth who were not living independently then would do so in the future.

FIGURE 5-13 RELATIONSHIP OF YOUTHS' LIVING INDEPENDENTLY AND PARENTS' EXPECTATIONS FOR THEIR FUTURE

Summary

This chapter has focused on trends in residential independence for youth with disabilities, looking at two points in time—when youth were out of school for less than 2 years and then 3 years later. The following questions have guided our inquiry, and their answers are summarized below.

What were the trends in postschool residential arrangements for youth as the years after high school increased? Were the rates at which youth lived in various residential settings, particularly independent arrangements, moving upward, moving downward, or largely unchanged?

- As youth with disabilities were out of secondary school for a longer period, there was a marked increase in the frequency of independent living arrangements. The rate of living independently went from 11% less than 2 years after secondary school to 37% 3 years later. At that later time, 28% of youth with disabilities were living with spouses or roommates, 7% lived alone, 1% lived in military housing, and 1% lived in college dormitories. Virtually all of the gain in living independently resulted from youth who had previously lived with family members leaving their family homes to begin independent households. Despite this trend toward greater residential independence, more than one-half (55%) continued to live in their parents' homes.

- Very few youth with disabilities (4%) were living in supervised settings when they had been out of school less than 2 years, with no significant change as youth were out of school longer (4%). Group homes were the most frequently reported type of supervised setting (2%) 3 to 5 years after school, compared with institutions for those with disabilities (1%) and residential schools (.3%).

- Although only a small percentage of youth were living in "other" residential arrangements at either time period (1% less than 2 years out of school and 4% 3 years later), the 3 percentage point gain over the 3 years was a significant increase. "Other" types of living arrangements included a wide range of situations, from correctional facilities to shelters for the homeless, halfway houses, drug rehabilitation centers, and runaway centers. Correctional facilities were the most commonly reported type of other residential arrangement, and were home to 3% of youth.

How did trends in residential independence for youth with disabilities compare with those for youth in the general population? Was the "gap" between youth with disabilities and the general population of youth narrowing? Widening? Constant?

- Three to 5 years after leaving school, youth with disabilities were significantly less likely than youth in the general population to be living independently (37% vs. 60%). Although youth in the general population and youth with disabilities experienced similar gains during the 3-year measurement period, because youth with disabilities were less likely to live independently when they had been out of school less than 2 years, the gap between the groups remained 3 years later.

Which youth experienced relatively better or worse outcomes?

- Although youth in each of the disability categories experienced gains in independence, rates of living independently continued to differ between two distinct groups. Between 38% and 46% of youth in most of the disability categories were living independently 3 to 5 years after school. Youth in four disability categories—those classified as other health impaired, mentally retarded, multiply handicapped, or deaf/blind—had significantly lower rates of residential independence, ranging from 6% to 25%.

- Youth with more severe impairments, such as those classified as multiply handicapped (36%) or deaf/blind (32%) were most likely to have supervised living arrangements.

- With most youth who lived in other residential arrangements being in correctional facilities, those with higher arrest rates reported significant increases in this type of living arrangement, including youth with serious emotional disabilities (an 8 percentage point increase), males (a 4 percentage point increase), those who were black (a 9 percentage point increase), and those who had dropped out of school (a 6 percentage point increase).

- Women were more likely to be living independently than men (45% vs. 34%). This gender difference appears to be related to the difference in marriage rates for males and females. Women were twice as likely as men to be married or living with someone of the opposite sex. Controlling for marriage, we saw no difference in the rates of females and males living independently.

- White youth lived independently more frequently than those who were black (42% vs. 26%).

- When young people with disabilities had been out of secondary school less than 2 years, dropouts were more likely than graduates to be living independently (15% vs. 10%). Three years later, graduates showed significantly larger gains in residential independence than dropouts; a 31 percentage point increase for graduates, compared with a 20 percentage point increase for dropouts. With these strong gains in independence by graduates, dropouts were no longer more likely to be living independently.

- Although for youth overall, the gap in independent living between graduates and dropouts closed, we still see gender differences. Whereas male dropouts were less likely to be living independently than male graduates (27% vs. 40%), female dropouts were more likely to be living independently than female graduates (56% vs. 43%).

- Youth who had aged out of school were least likely to be living independently 3 to 5 years after secondary school (22% vs. 41% of graduates and 35% of dropouts).

- Youth with stronger community living skills were more likely to be living independently. Fewer than 1% of youth who received low scores on the community living skills scale lived independently, compared with 22% of those receiving low/medium scores; 35% of those receiving medium/high scores lived independently, compared with 49% of those with the highest score. Almost half of those who had drivers' licenses lived independently, compared with only one-fourth of those without licenses. These relationships between community living skills and activities and residential independence held even for youth who shared the same disability classification.

- Youths' full time employment related strongly to their ability to live independently. Youth who were competitively employed full time were significantly more likely to be living independently than those not employed (44% vs. 34%). However, those employed part time and those in sheltered employment were not significantly more likely to be living independently than youth who were not employed.

- Financial support from families did not appear to be sufficient for youth to be able to live independently. On the contrary, those receiving money for living expenses from parents were less likely to be living independently (22%) than were youth who did not receive family financial support (43%).

- Not surprisingly, spousal support appears to be related to living independently. Almost 80% of married women who were not employed still lived independently, compared with only 17% of single women who did not work. Although living independently and not being employed outside the home was a more common experience for women than for men, married men who were not employed also were significantly more likely to be living independently than single men who were not employed (62% vs. 15%).

What fluctuations in residential arrangements did youth experience over time? Were such arrangements stable experiences?

- The residential independence status of a majority of youth was the same when youth had been out of school less than 2 years and 3 years later; 61% were not living independently at either point, and 9% were living independently at both points. For most other youth with disabilities, the direction of movement in living arrangements was a positive one, with very few losing independence (2%) and many gaining independence (28%).

This chapter has demonstrated a strong and generally pervasive movement toward residential independence on the part of many youth with disabilities. However, when youth had been out of secondary school 3 to 5 years, more than half continued to live in their family homes. Although this arrangement was satisfactory for the time being to a majority of parents (74%), more than half of youth (59%) wanted to be living elsewhere. We do not know whether financial limitations, the limitations of disability, or other factors presented obstacles to youth who wanted to move away from their parents' homes. However, their desire to do so raises the question whether support services are needed to help these youth realize their goal of residential independence.

Further, 10% of parents whose children with disabilities were not living independently when they had been out of school less than 2 years expected that they definitely never would. Although 2% of those youth proved their parents wrong and were living independently 3 years later, the vast majority were not. Another 12% of parents expected that youth "probably would not" live independently; 26% had achieved the unexpected in the subsequent 3 years, but almost three-fourths of these youth had not. If parent expectations are correct for the youth who were not living independently 3 to 5 years after secondary school, there is a considerable future demand for supervised living arrangements. Although only 4% of youth were living in supervised settings 3 to 5 years after secondary school, considerably more parents and/or youth may seek supervised alternatives to family homes in the future. We wonder what options they will find when that time comes. Will there be supervised settings of sufficient quantity and quality available? What kinds of communities can meet the need; which are lacking appropriate residential alternatives? What policies and investments are needed to provide a range of residential settings to reflect the diversity of desires, abilities, and disabilities of young adults who need them? As we look to the future, questions such as these loom large.

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6 "A LITTLE HELP FROM MY FRIENDS": THE SOCIAL INVOLVEMENT OF YOUNG PEOPLE WITH DISABILITIES

by Mary Wagner

In an earlier chapter, we examined the employment experiences and postsecondary schooling of young people with disabilities. Through paid work and postsecondary education to improve skills and employability, young people with disabilities lay the foundation for adult financial independence and begin to contribute economically to their society. Although employment is the most emphasized postschool outcome for youth with disabilities (Will, 1984; Darrow and Clark, 1991; Halpern, 1990), the NLTS takes a broader look at postschool experiences by focusing as well on youths' residential independence (Chapter 5). If for a young adult with disabilities, "living successfully in his or her community" is the primary goal of transition support and services (Halpern, 1985), attention to issues of living arrangements and community integration are critical.

One important indicator of whether a youth is living successfully in the community is the "adequacy of his or her social and interpersonal network [which]...is possibly the most important of all" aspects of adjustment for young adults with disabilities (Halpern, 1985). The importance of having a well-developed social network of family members and/or friends arises from the social support functions that it fulfills, including, for example, reassurance of self-worth, provision of guidance, opportunities for nurture, a sense of attachment and social integration, and material aid (Weiss, 1974; Barrera, 1986). These functions may be particularly important during the transition from secondary school, with the structure and explicit direction and feedback that students generally receive there, to adult roles, with their implication of greater responsibility and independence. Such times of transition often are periods of increased stress, during which social support can be critical in helping young people cope with their changing world and their new and evolving roles (Tappe and Gaylord-Ross, 1990; Thoits, 1986).

Having a job or going to school can provide opportunities for developing or strengthening one's social and interpersonal network in that coworkers and fellow students also can be friends and mentors. However, we cannot assume that making a successful transition to employment or postsecondary schooling necessarily implies successful social adjustment. In fact, some research has found virtually no correlation between employment and satisfactory social adjustment (Halpern, 1985). Friends and family are the primary components of one's social network, which may function well or poorly, irrespective of whether youth are employed or are furthering their education or training after high school.

In this chapter, we examine trends in the social involvement of youth with disabilities in the first 5 years after secondary school, with our first focus being on relationships with family members and peers. We assess the frequency with which youth participated in these informal social relationships by addressing how often young people were in contact with parents and how often they saw friends or family members socially (other than those they were living with). Our attention to family relationships of young adults with disabilities further includes an analysis of the extent of their own family formation through marriage and childbearing. Marital dissolution also is considered.

From this interpersonal focus, we step back to view the extent to which youth were involved in the social fabric of their communities more broadly. We address trends in youths' participation in more organized social networks by examining their memberships in social or community groups after secondary school. We then integrate our analyses of informal family and friendship interactions and group memberships to look at the extent to which there were youth who did not participate in either form of social network.

Finally, we consider youths' citizenship responsibilities in society. One dimension of citizenship is assessed by examining whether youth were registered to vote when they had been out of secondary school 3 to 5 years. We conclude by looking at the antithesis of good citizenship, analyzing the rate at which young people with disabilities had been arrested.

Friend and Family Relationships

Having supportive relationships with family members and/or friends can do much to help young people cope with the stresses of burgeoning independence. Having someone to confide in can increase a young person's sense of self-efficacy; he or she may draw confidence from knowing that the choices and new behaviors required in young adulthood do not need to be faced alone (Smilansky, 1991; Cohen and Wills, 1985).

Social support can come from those one lives with. In Chapter 4, we learned that a majority (55%) of youth with disabilities out of school 3 to 5 years lived with family members and 28% lived with a spouse or roommate who may have provided needed social and emotional support. However, an effective social network generally extends beyond one's household. Adolescents in particular often prefer friends, rather than family members, as sources of support because of the perception that age peers face similar developmental challenges and experiences (Tokuno, 1986), providing a common basis for understanding and mutual support.

Yet, making and sustaining social networks appear to be problematic for youth with disabilities. Some research has examined, for example, the size of the social networks of persons with disabilities in terms of the number of members in them. The social networks of young people with mental retardation, for example, has been shown to contain fewer nonprofessional associates than the networks of nondisabled youth (Horner, Newton, LeBaron, Stoner, and Ferguson, 1987; Park, Cameto, Tappe, and Gaylord-Ross, 1990), and loneliness and an absence of friends were significant problems (Schalock, Harper, and Carver, 1981).

Other research has focused on the level of activity or frequency of contact among persons with disabilities and those in their social networks, concluding that those with disabilities are less socially active than their nondisabled peers. For example, in a national survey of Americans with disabilities, the International Center for the Disabled (Louis Harris and Associates, 1986) found that, although 85% of nondisabled persons socialized at least weekly with family or friends, only three-fourths of those with disabilities reported that they had social contacts that frequently.

The NLTS, too, has focused largely on the frequency of social contacts of young people with disabilities and has found that some groups of young people with disabilities had much less active social networks than others (Newman, 1991). For example, in the early years after secondary school, youth with orthopedic impairments saw friends or family members socially significantly less often than did youth in many other disability categories. Similarly, young women with disabilities had social interactions significantly less often than did their male counterparts.

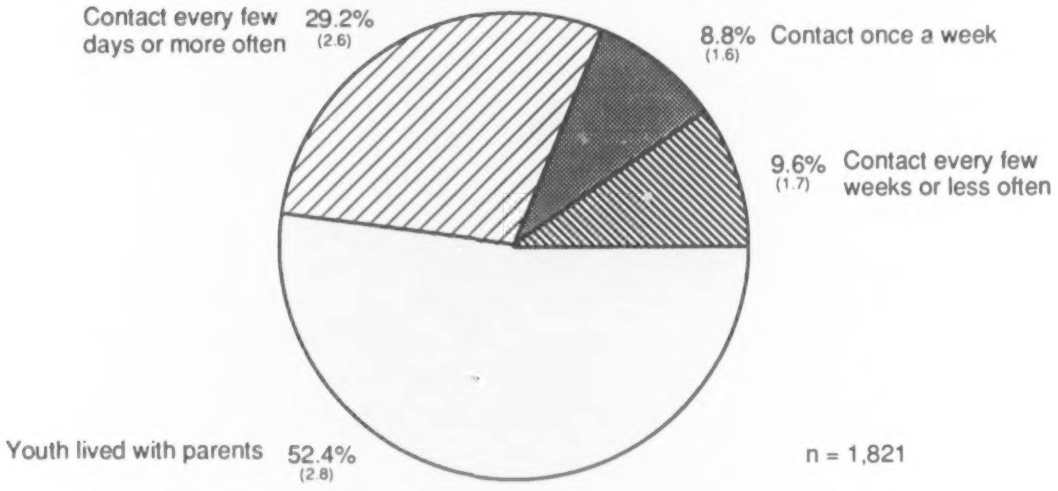
Despite the difficulties of establishing social networks, the frequency of social interaction among young people with disabilities appears to withstand the changes inherent in the transition from secondary school to the early years afterward. Newman (1991) reported findings from the NLTS that the frequency of social interaction was similar for secondary school students with disabilities and for young people in their first 2 years out of school. For example, 39% of secondary school students with disabilities saw friends 6 or 7 days a week, compared with 38% of out-of-school youth.

How did the frequency of social interaction of youth with disabilities evolve as the years since leaving school increased? We address this question in two ways, focusing first on contacts between youth with disabilities and their parents, and then widening our perspective to include frequency of social contacts that youth with disabilities had with friends or family members, other than those with whom youth were living.

Parental Contacts with Out-of-School Youth with Disabilities

The NLTS investigated the frequency with which parents were in contact with their adolescent or young adult children with disabilities when they had been out of secondary school 3 to 5 years. Parents and youth who were still living in the same household were considered to have daily contact. Parents of youth no longer living with parents were asked how often, on average, they "talk with (NAME) by phone or in person."

Figure 6-1 reiterates findings from Chapter 5 that just over half of youth with disabilities were living with family members.* Among youth who were not, the vast majority were reported to have contacts with parents every few days or more often; 29% of youth were reported to have contacts with parents this often, compared with 9% having weekly contacts and 10% having contacts with parents every few weeks or less often.



Standard errors are in parentheses.

FIGURE 6-1 FREQUENCY OF CONTACT BETWEEN PARENTS AND YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS

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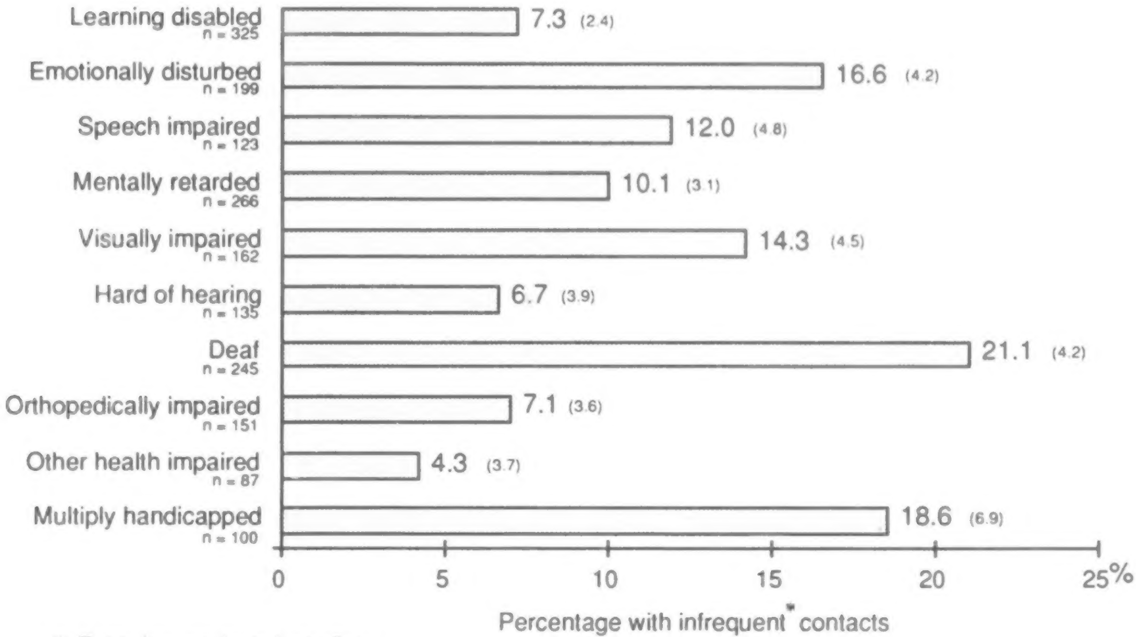
* The percentage of youth living with family members reported here differs slightly from that reported in Chapter 5 (52% vs. 55%) because here we include only family members who also were respondents to the interview and therefore could respond about frequency of contacts they had with youth no longer living at home.

Figure 6-2 demonstrates differences among youth in various disability categories in the extent to which they were reported to have infrequent contacts with parents (i.e., every few weeks or less often). Relatively few youth with learning disabilities or orthopedic impairments or those classified as hard of hearing had infrequent contacts with parents (7%), as did few youth with other health impairments (4%). However, significantly more youth with emotional disturbances (17%), multiple handicaps (19%), or those classified as deaf (21%) were in contact with parents infrequently ($p<.05$ when compared with those with learning disabilities, for example). Parents of deaf youth may have reported talking with their children who lived away from home less frequently than parents of youth with other disabilities because of the difficulty of telephone conversation for youth with hearing impairments. There were no significant differences in frequency of parent/youth conversations by gender, ethnic background, or school completion status.



* Every few weeks or less often.

Standard errors are in parentheses.

FIGURE 6-2 YOUTH WITH DISABILITIES OUT OF SCHOOL 3 TO 5 YEARS WHO WERE IN CONTACT WITH PARENTS INFREQUENTLY

Frequency of Social Contact Outside the Home

In addition to parents, friends and other family members can be important sources of social support for youth with disabilities. The NLTS investigated the frequency of youths' social interactions with friends and family members in both the 1987 and 1990 parent/youth interviews by asking "How many days a week does (the youth) see friends or family members socially, other than those he/she lives with?" Although we understand that frequency of social interaction does not reflect the number of friends youth may have or the quality or closeness of social relationships, it is a general indicator of youths' social involvement.

Table 6-1 shows that youth with disabilities saw friends less frequently as time passed after leaving secondary school; however, they continued to socialize. For example, 52% of youth were reported to see friends or family members socially 4 or more days a week in the first 2 years after high school, compared with 38% 3 years later, a decline of 14 percentage points ($p<.001$). However, there is no evidence that youth were pulling away from social interactions entirely. The percentage of youth who saw people socially less often than weekly was virtually unchanged (9% for youth out of school up to 2 years and 10% later). Seeing friends 1 to 3 days per week was the predominant frequency of interaction when youth had been out of school 3 to 5 years, with 52% of youth reporting that frequency, an increase of 13 percentage points from the earlier period ($p<.01$).

Youth with visual, health, or multiple impairments, including those who were deaf/blind, saw friends less frequently than did youth with other disabilities. For example, 24% of visually impaired youth who had been out of school 3 to 5 years socialized with friends less often than weekly, a significantly higher rate than among youth with learning disabilities or emotional disturbances (9%; $p<.01$) or who were deaf (8%; $p<.05$).

The pattern of declining frequency of social interaction with friends and family members was consistent both for men and women and for youth with most ethnic backgrounds and all school completion status, as shown in Table 6-2. With similar rates of decline over time, young women with disabilities maintained their significantly lower rate of social contacts relative to men. Three to 5 years after secondary school, for example, 27% of young women saw friends or family members socially 4 or more days a week, compared with 43% of young men with disabilities ($p<.05$). Similarly, youth who aged out of secondary school had social interactions significantly less often than others. Three to 5 years after leaving school, for example, their rate of seeing friends 4 or more days a week (22%) was significantly lower than that of graduates (40%; $p<.01$) or dropouts (38%; $p<.05$).

Table 6-1

FREQUENCY OF SOCIAL INTERACTIONS[a] OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

(Percent)

Frequency of Interactions	All Conditions	Primary Disability Category: Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped	Deaf/ Blind
Youth were out of high school less than 2 years and had social interactions:												
Less often than weekly	9.0 (1.7)	5.0 (2.0)	9.6 (3.4)	12.7 (4.8)	14.3 (3.7)	14.1 (4.4)	12.0 (5.0)	10.1 (3.2)	20.4 (5.9)	23.4 (7.9)	29.1 (8.4)	44.7 (11.7)
1-3 days a week	39.1 (2.9)	39.1 (4.6)	32.7 (5.5)	35.9 (7.0)	41.5 (5.2)	44.7 (6.3)	38.0 (7.4)	42.4 (5.2)	51.4 (7.4)	31.3 (8.7)	46.4 (9.2)	44.9 (11.7)
4 or more days a week	51.9 (2.9)	55.9 (4.6)	57.7 (5.8)	51.4 (2.3)	44.2 (5.3)	41.2 (6.3)	50.0 (7.7)	47.5 (5.3)	28.2 (6.5)	45.3 (9.3)	24.5 (7.9)	10.4 (7.2)
n	1,807	313	197	128	253	166	139	235	163	84	97	32
Youth were out of high school 3 to 5 years and had social interactions:												
Less often than weekly	10.0 (1.7)	8.7 (2.6)	9.0 (3.4)	14.1 (5.2)	11.2 (3.3)	24.3 (5.4)	15.0 (5.6)	8.2 (2.9)	11.5 (4.8)	20.0 (7.6)	27.3 (8.6)	28.7 (11.1)
1-3 days a week	51.8 (3.1)	50.3 (4.7)	47.3 (5.9)	54.6 (7.4)	57.2 (5.3)	45.6 (6.3)	47.6 (7.8)	53.3 (5.2)	45.6 (7.5)	47.5 (9.5)	45.3 (9.6)	57.6 (12.1)
4 or more days a week	38.2 (2.9)	41.0 (4.6)	43.7 (5.8)	31.3 (6.9)	31.6 (4.9)	30.1 (5.8)	37.4 (7.5)	38.5 (5.1)	42.9 (7.4)	32.6 (8.9)	27.4 (8.6)	13.7 (18.4)
n	1,728	305	172	119	246	166	136	227	154	82	89	30
Difference between <2 and 3-5 years after high school in rate of social interactions:												
Less often than weekly	1.0 (2.4)	3.7 (3.3)	-0.6 (4.8)	1.4 (7.1)	-3.1 (5.0)	10.2 (7.0)	3.0 (7.5)	-1.9 (4.3)	-8.9 (7.6)	-3.4 (11.0)	-1.8 (12.0)	-16.0 (16.1)
1-3 days a week	12.7** (4.2)	11.2† (6.6)	14.6† (8.1)	18.7† (10.2)	15.7* (7.4)	0.9 (8.9)	9.6 (10.8)	10.9 (7.4)	-5.8 (10.5)	16.2 (12.9)	-1.1 (13.3)	12.7 (16.8)
4 or more days a week	-13.7*** (4.1)	-14.9 (6.5)	-14.0*** (8.2)	-20.1** (7.3)	-12.6† (7.2)	-11.1 (8.6)	-12.6 (10.7)	-9.0 (7.4)	14.7 (9.8)	-12.7 (12.9)	2.9 (11.7)	3.3 (19.8)

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[a] Social interactions included "seeing friends or family members socially, other than those (the youth) lives with."

Standard errors are in parentheses.

†p<.10, *p<.05, **p<.01, ***p<.001

Table 6-2

FREQUENCY OF SOCIAL INTERACTIONS[a] OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

(Percent)

Frequency of Social Interaction	Youth Characteristics							
	Gender		Ethnicity			Secondary School Completion Status		
	Male	Female	White	Black	Hispanic	Graduate	Dropout	Ageout
Youth were out of high school less than 2 years and had social interactions:								
Less often than weekly	8.0	11.1	8.8	8.1	15.9	8.1	7.8	18.9
	(1.9)	(3.5)	(1.9)	(3.6)	(9.0)	(1.9)	(3.2)	(4.7)
1-3 days a week	35.0	48.4	39.1	36.6	42.1	41.0	36.5	47.4
	(3.3)	(5.6)	(3.3)	(6.4)	(12.2)	(3.5)	(5.8)	(6.0)
4 or more days a week	57.0	40.5	52.1	55.3	42.0	50.9	55.7	33.7
	(3.4)	(5.5)	(3.4)	(6.7)	(12.2)	(3.5)	(5.9)	(5.6)
n	1,131	676	1,243	363	138	1,143	304	313
Youth were out of high school 3-5 years and had social interactions:								
Less often than weekly	9.3	11.8	9.9	9.9	13.4	9.8	9.1	16.7
	(2.0)	(3.7)	(2.1)	(4.3)	(8.6)	(2.1)	(3.7)	(4.6)
1-3 days a week	47.8	60.7	49.9	54.0	73.8	50.2	52.7	60.9
	(3.5)	(5.6)	(3.5)	(7.1)	(11.1)	(3.5)	(6.4)	(6.0)
4 or more days a week	42.9	27.4	40.1	36.1	12.9	40.0	38.3	22.4
	(3.5)	(5.1)	(3.4)	(6.8)	(8.4)	(3.4)	(6.2)	(5.1)
n	1,072	656	1,184	335	132	1,176	265	284
Difference between <2 and 3-5 years after high school in rate of social interaction:								
Less often than weekly	1.3	0.7	1.1	1.8	-2.5	1.7	1.3	-2.2
	(2.8)	(5.1)	(2.8)	(5.6)	(12.4)	(2.8)	(4.9)	(6.6)
1-3 days a week	12.8**	12.3	10.8*	17.4†	31.7†	9.2†	16.2	13.5
	(4.8)	(7.9)	(4.8)	(9.6)	(16.5)	(4.9)	(8.6)	(8.5)
4 or more days a week	-14.1**	-13.1†	-12.0*	-19.2*	-29.1*	-10.9*	-17.4*	-11.3
	(4.9)	(7.5)	(4.8)	(9.5)	(14.8)	(4.9)	(8.6)	(7.6)

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[a] Social interactions included "seeing friends or family members socially, other than those (the youth) lives with."

Standard errors are in parentheses.

†p<.10, *p<.05, **p<.01

Seeing friends or family members socially and having conversations of any kind with adult family members appear to be indicators of a more general social connectedness. Those who had the least frequent social contacts also had the least frequent phone or in-person contacts with parents, as shown in Table 6-3. For example, among youth who no longer lived with parents and who saw friends less often than weekly, 35% had conversations with family members a few times a week or more, a significantly lower rate of contact than youth who saw friends 1 to 3 days a week, among whom 71% had conversations with parents a few times a week or more (p<.01).

Table 6-3

FREQUENCY OF SOCIAL INTERACTIONS AND OF CONTACTS WITH PARENTS AMONG YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS AND NO LONGER LIVING WITH PARENTS

	Youth Saw Friends/Family Socially:			
Conversations with Parents	Less than Weekly	1-2 Days a Week	4 or more Days a Week	Total
Percentage of youth no longer living with parents whose parents reported talking with youth by phone or in person:				
A few times a week or more	34.7 (11.6)	71.1 (5.8)	68.1 (6.9)	61.4 (4.0)
Once a week	26.9 (10.8)	19.8 (5.1)	17.2 (5.6)	18.4 (3.2)
Every few weeks	18.9 (9.6)	6.8 (3.2)	10.5 (4.5)	12.8 (2.7)
Every few months or less	19.6 (9.7)	2.2 (1.9)	4.2 (3.0)	7.3 (2.1)
n	76	362	247	830

Marriage and Family Formation

As young people age, many increasingly base their social networks in their own independent households, often developed through marriage and childbearing. Although getting married and having children generally are positive aspects of adult independence, marriage and parenting during adolescence and early adulthood can be problematic. Early pregnancies, particularly among single mothers, can be obstacles to school completion, employment, and postsecondary education, thereby lowering the prospects for future adult financial independence (U.S. GAO, 1991). Further, early marriages are noted for their high rate of dissolution in later years (McCarthy and Menken, 1979; Morgan and Rindfuss, 1985; Hofferth and Hayes, 1987). Children of teen mothers, too, often experience negative effects, both cognitive and social (Wadsworth, Taylor, Osborn, and Butler, 1984; Brooks-Gunn and Furstenberg, 1986; Hayes, 1987).

Here, we examine the extent to which young people with disabilities were marrying or living with someone of the opposite sex.* We also consider the rate at which their marriages ended through divorce or death of a spouse. Finally, we investigate the proportion of young people who were parents in the early years after high school, and the relationship of parenthood to other life activities, such as employment and postsecondary education and training. Because experiences with marriage and childbearing differ markedly for men and women (e.g., the earlier age at which women marry, compared with men; OERI, 1991), we report findings separately for young men and women.

Marriage Among Youth with Disabilities

There was a significant increase over time in the rate at which young people with disabilities were marrying or living with someone of the opposite sex. Within 2 years after high school, 7% of youth were married, compared with 19% 3 years later ($p<.001$). Of youth who were married 3 to 5 years out of school, 25% had been married 3 years earlier, and 5% had been engaged at that time. Young men with disabilities experienced an 11 percentage point increase in the proportion who were married, from 4% to 15% ($p<.001$). Compared with young men, young women with disabilities both were more likely to have been married in the first 2 years after high school and experienced a greater increase in their marriage rates in the ensuing 3 years. Hence, by the time they had been out of school 3 to 5 years, 30% were married or living with someone of the opposite sex, an 18 percentage point increase over their earlier rate ($p<.01$), and twice the rate of young men with disabilities ($p<.01$).

As shown in Figure 6-3, the 13 percentage point increase in the marriage rate among youth with disabilities overall was significantly smaller than the 19 and 20 percentage point increases noted for comparison groups of youth in the general population based on the NLSY ($p<.05$). This smaller increase for youth with disabilities is attributable primarily to the smaller increase for young men with disabilities (11 percentage points) relative to young men in the general population (17 or 18 percentage points). The increase in the proportion of young women with disabilities who were married (18 percentage points) was much closer to the increase among young women in the general population (23 and 22 percentage points).

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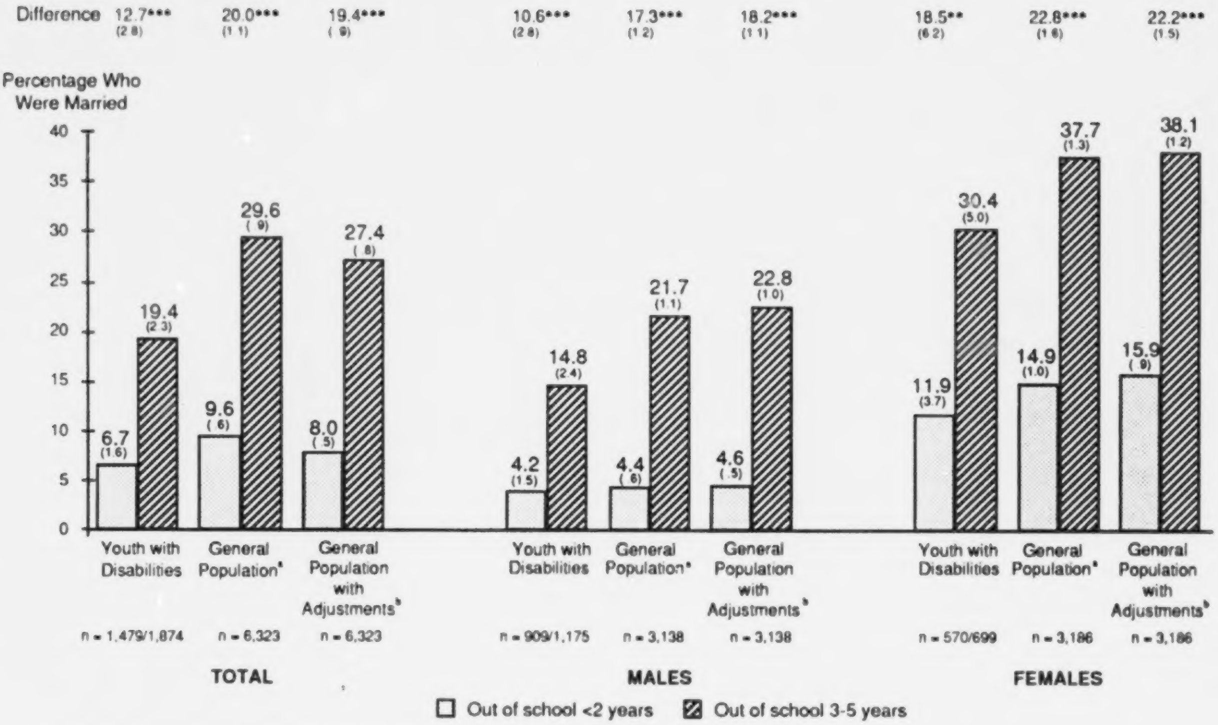
* Marital status was determined by asking whether youth were "single, never married; engaged; married or living with someone of the opposite sex; widowed; or divorced." Therefore, this discussion refers to youth who were either married or living with someone of the opposite sex, even when referred to more briefly as "married."



a Data for the general population come from the 1979-1986 National Longitudinal Survey of Youth.

b This group matches youth with disabilities with regard to gender, ethnicity, and head of household's education.

Standard errors are in parentheses.

** p < .01, *** p < .001

FIGURE 6-3 MARRIAGE OR LIVING WITH PERSONS OF THE OPPOSITE SEX AMONG OUT-OF-SCHOOL YOUTH WITH DISABILITIES AND YOUTH IN THE GENERAL POPULATION

Although youth with disabilities had marriage rates fairly equal to those of the general population in the first 2 years after secondary school, with their smaller increase over time, by 3 to 5 years after school, the 19% rate of marriage or living with someone of the opposite sex among youth with disabilities was significantly lower than the 30% rate for youth in the general population and the 27% rate for a demographically similar group from the general population (p<.001). High School and Beyond reported a similar marriage rate, 28%, for 1980 sophomores in the general population 4 years after high school (CES, 1987). Both young men and young women with disabilities had marriage rates 3 to 5 years after high school that were about 7 percentage points lower than those of their peers in the general population. This difference was statistically significant for the larger group of males (p<.01).

Table 6-4 indicates consistent increases in the marriage rate for youth in most disability categories. Increases ranged from 3 percentage points for youth with multiple handicaps to 20 percentage points for those who were hard of hearing and were significant for youth in all disability categories except visually and other health impaired and multiply handicapped. When youth had been out of school 3 to 5 years, there were no significant differences between youth in different disability categories in their marriage rates overall except for a significantly lower rate among youth with multiple handicaps (3%, p<.001). The marriage rates 3 to 5 years after secondary school for youth with learning disabilities and who were hard of hearing approached the rate noted for youth in the general population.

Women in all disability categories except multiply handicapped were more likely to be married than their male counterparts with the same disabilities, significantly so in the cases of women with learning disabilities (41% vs. 18%; p<.05), mental retardation (21% vs. 8%; p<.01), or other health impairments (30% vs. 3%; p<.05), or women who were hard of hearing (36% vs. 11%; p<.05) or deaf (25% vs. 11%; p<.10).

Regarding ethnic differences, Table 6-5 indicates that both white and black young people with disabilities showed significant increases in their rates of being married. Whereas 8% of white youth with disabilities were married or living with someone of the opposite sex when they had been out of school up to 2 years, 23% were married 3 years later (15 percentage points; p<.001). The marriage rate among blacks also increased significantly (9 percentage points; p<.05), rising to 10% of black young people with disabilities who had been out of school 3 to 5 years. However, among white youth, both males and females experienced significant increases, with a 10 percentage point gain for men and a 26 percentage point gain for women (p<.01). Among black youth, only the increase for young men was statistically significant (11 percentage points, p<.05). When youth had been out of school 3 to 5 years, the marriage rate for white youth was higher than for blacks (23% vs. 10%; p<.01). However, the difference was attributable entirely to the significantly higher rate of marriage among young white women compared with black women (39% vs. 7%; p<.001). White and black men with disabilities did not differ in the rate at which they were married (10% and 11%).

Finally, when examining variations in the prevalence of marriage by the school completion status of youth, only graduates experienced a significant rise in their marriage rate, from 4% to 20% over the time period (p<.001). Increases were fairly equal for men and women graduates (14 and 19 percentage points), and both were statistically significant (p<.001 and .01). The marriage rate of dropouts was significantly higher than those of others when youth had been out of school less than 2 years (18%) but remained largely unchanged over time (21%), so that their rate was no higher than that of graduates when both had been out of school 3 to 5 years. Marriage rates for women dropouts, however, reached 46% 3 to 5 years after secondary school, a significantly higher rate than for male dropouts (12%; p<.05) and a markedly higher

Table 6-4
MARRIAGE RATES OF OUT-OF-SCHOOL MALES AND FEMALES, BY DISABILITY CATEGORY

Percentage Who Were Married/Living with Someone of the Opposite Sex

	All Youth			Males			Females		
Primary Disability Category	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5
Learning disabled	9.1	23.5	14.4**	5.5	17.8	12.3†	19.7	41.4	21.7
	(2.9)	(3.9)	(4.9)	(2.5)	(3.8)	(4.6)	(8.8)	(10.5)	(16.3)
n	261	328	205	262	56	66			
Emotionally disturbed	3.8	17.2	13.4**	.4	14.1	13.7**	11.5	26.8	15.3
	(2.6)	(4.3)	(5.0)	(1.0)	(4.4)	(4.5)	(9.1)	(11.2)	(14.4)
n	145	197	107	153	38	44			
Speech impaired	6.5	18.0	11.5†	1.0	16.4	15.4*	14.4	20.7	6.3
	(4.1)	(5.5)	(6.9)	(2.4)	(7.0)	(7.4)	(8.1)	(8.6)	(14.6)
n	96	130	56	80	40	50			
Mentally retarded	3.6	13.5	9.9*	3.8	8.5	4.7	3.3	21.2	17.9*
	(2.1)	(3.5)	(4.1)	(2.9)	(3.8)	(4.8)	(3.0)	(6.3)	(7.0)
n	203	267	114	155	89	112			
Visually impaired	4.8	12.7	7.9	.0	9.5	9.5*	10.4	16.5	6.1
	(2.9)	(4.1)	(5.0)	(.0)	(4.4)	(4.4)	(7.0)	(7.4)	(10.2)
n	147	175	87	101	60	74			
Hard of hearing	4.6	24.6	20.0**	.8	10.9	10.1	8.2	36.2	28.0*
	(3.4)	(6.5)	(7.3)	(1.8)	(6.2)	(6.5)	(6.8)	(10.8)	(12.8)
n	126	143	69	76	57	67			
Deaf	4.9	17.2	12.3**	2.2	11.4	9.2	8.7	24.8	16.1*
	(2.3)	(3.9)	(4.5)	(2.2)	(4.6)	(5.1)	(4.0)	(6.3)	(7.5)
n	212	249	117	136	95	113			
Orthopedically impaired	3.0	16.6	13.6*	.0	15.5	15.5*	5.7	17.7	12.0
	(2.8)	(5.4)	(6.1)	(.0)	(6.5)	(6.5)	(6.1)	(8.6)	(10.5)
n	134	161	69	84	65	77			
Other health impaired	5.6	16.0	10.4	--	2.9	--	11.6	30.0	18.4
	(5.0)	(6.9)	(8.5)		(4.3)		(9.5)	(12.5)	(15.7)
n	60	85	29	45	31	40			
Multiply handicapped	.0	3.4	3.4	.0	5.2	5.2	--	.0	--
	(.0)	(3.1)	(3.1)	(.0)	(5.0)	(5.0)		(.0)	
n	70	107	46	66	24	41			

Standard errors are in parentheses.

†p<.10, *p<.05, **p<.01

Table 6-5

MARRIAGE RATES OF OUT-OF-SCHOOL MALES AND FEMALES WITH DISABILITIES, BY YOUTH CHARACTERISTICS

	Percentage Who Were Married/Living with Someone of the Opposite Sex								
	All Youth			Males			Females		
Youth Characteristics	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5	<2 Years After School	3-5 Years After School	Difference Between <2 and 3-5
Ethnic background									
White	7.8	22.8	15.0***	5.2	15.6	10.4**	13.5	39.4	25.9**
	(2.0)	(2.8)	(3.4)	(1.9)	(2.8)	(3.4)	(4.7)	(6.6)	(8.1)
n	1,032	1,272	634	802	398	470			
Black	.7	10.1	9.4*	.5	11.3	10.8*	1.2	7.3	6.1
	(1.2)	(3.9)	(4.1)	(1.2)	(4.9)	(5.0)	(2.9)	(6.3)	(6.9)
n	291	384	186	247	105	137			
Hispanic	18.5	25.0	6.5	7.6	22.2	14.6	40.8	31.0	-9.8
	(11.8)	(10.5)	(15.8)	(11.0)	(13.6)	(17.5)	(18.8)	(14.1)	(17.4)
n	102	139	55	75	47	64			
Secondary school completion status									
Graduate	4.3	20.0	15.7***	2.8	17.1	14.3***	7.6	26.9	19.3**
	(1.5)	(2.7)	(3.1)	(1.4)	(3.1)	(3.4)	(3.4)	(5.5)	(6.5)
n	1,093	1,247	659	758	434	489			
Dropout	18.0	21.1	3.1	9.9	12.1	2.2	38.0	45.5	7.5
	(7.1)	(4.8)	(8.6)	(6.2)	(4.2)	(7.5)	(18.9)	(13.0)	(22.9)
n	116	299	85	217	31	82			
Ageout	2.7	8.3	5.6	3.4	8.8	5.4	1.8	7.6	5.8
	(2.1)	(3.2)	(3.8)	(2.8)	(4.1)	(5.0)	(2.9)	(5.1)	(5.9)
n	270	320	165	197	105	123			

Standard errors are in parentheses.

*p<.05, **p<.01

rate than for women graduates (27%), although the latter difference is not statistically significant because of the small number of women dropouts. Youth who aged out of secondary school had significantly lower marriage rates than other youth at both times and experienced little increase over time.

Marriage Dissolution

In the early years after high school, youth with disabilities both began and ended marriages. By the time they had been out of secondary school 3 to 5 years, 2% of youth with disabilities had had marriages end through divorce or death of a spouse and were not remarried or engaged. Rates of marital dissolution ranged from 1% to 3% for youth in different disability categories; there were no significant differences in marriage dissolution by gender, ethnic background, or secondary school completion status. In the general population of youth, rates of marriage dissolution were comparable; NLSY data indicate that 4% of youth in the general population who had been out of school 3 to 5 years were divorced or widowed, whereas among 1980 high school sophomores 4 years after leaving school, 2% were divorced or widowed (CES, 1987).

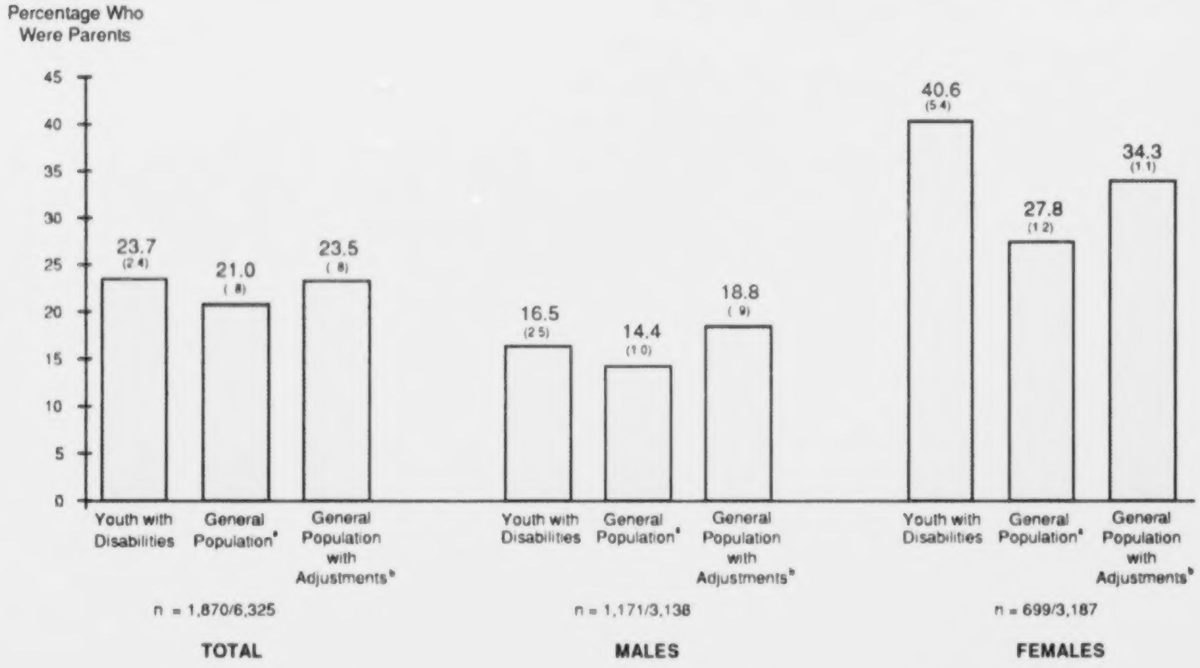
The number of youth whose marriages had ended is quite a small percentage of youth with disabilities overall, most of whom were still single at this point in their lives (72%). However, when we look only at youth who were married or living with someone of the opposite sex when they had been out of secondary school less than 2 years, we find that 15% were divorced or widowed 3 years later. (There are too few youth who were married when they had been out of school less than 2 years to examine variations by disability category or other youth characteristics.)

This rate underestimates the actual rate of divorce/widowhood because we cannot distinguish those who were married in the first 2 years after high school from those reported to be living with someone of the opposite sex without being married; obviously, the smaller percentage of youth who were legally married were the only youth who could subsequently be divorced or widowed. In addition, if divorced or widowed youth had remarried or become engaged when they were 3 to 5 years out of school, they would be included in those categories, rather than being counted among youth who were divorced or widowed, further deflating the actual percentage of those whose marriages had ended.

Parenting

Given the frequency with which youth with disabilities were married or living with someone of the opposite sex, it is not surprising that many youth were parents. Overall, 24% of youth with disabilities 3 to 5 years after secondary school were reported to be parents. This rate is virtually identical to the parenting rate of youth in the general population measured by the NLSY (21%), in a demographically similar group of youth in the general population (24%), and among 1980 high school sophomores who were 4 years out of secondary school (22%; CES, 1987).

However, these comparisons among youth overall mask important gender differences, as shown in Figure 6-4. Parenthood was significantly more common among females with disabilities (41%) than males (16%; p<.001). This difference may be explained in part by the higher proportion of minorities among women with disabilities relative to men; early sexual activity and pregnancy are more common among black than white youth (Miller and Moore, 1990).



a Data for the general population come from the 1979-1986 National Longitudinal Survey of Youth.
b This group matches youth with disabilities with regard to gender, ethnicity, and head of household's education.

Standard errors are in parentheses.

FIGURE 6-4 PARENTING RATES OF YOUTH WITH DISABILITIES AND YOUTH IN THE GENERAL POPULATION 3 TO 5 YEARS AFTER SECONDARY SCHOOL

Further, young women with disabilities were significantly more likely to be mothers than were females in the general population who also had been out of secondary school 3 to 5 years (41% vs. 28%; p<.05), despite the fact that they were no more likely to have been married. One might hypothesize that the predominance of poverty and single-parent families among youth with disabilities relative to the general population (Marder and Cox, 1991), factors related to early adolescent sexual activity and pregnancy (Forste and Heaton, 1988; Miller and Bingham, 1989), would help explain differences in parenting rates between women with disabilities and women in the general population. In fact, much of the difference between women with disabilities and women in the general population is eliminated when differences in ethnic background and head of household's education are adjusted in the demographically similar comparison group (34% vs. 41%). However, some difference remains. In addition, there is no difference between males with disabilities and those in the general population, despite their difference in poverty and ethnic background, suggesting that young women with disabilities differ in their parenting rate at least in part because of disability, not merely demographic differences.

Table 6-6 demonstrates substantial variation in parenting among youth with different disability classifications. The rate was above 25% among youth classified as hard of hearing, speech impaired, learning disabled, and seriously emotionally disturbed. Fewer than 10% of youth were parents among those classified as visually or orthopedically impaired, multiply handicapped, or deaf/blind (p<.01 or .001 compared with all conditions). Overall, gender differences held true for youth with the same disability as well. For example, 28% of deaf women were parents, compared with 10% of young men who were deaf (p<.05). Similarly, 50% of women with learning disabilities were parents, compared with 19% of men with learning disabilities (p<.01).

Although there were no differences in the parenting rates of youth with different ethnic backgrounds (rates ranged from 23% to 29%, Table 6-7), parenting rates of men and women were not consistent for all ethnic groups. Whereas among white youth, females were parents significantly more often than males (44% vs. 13%; p<.001), reported parenting rates were very similar for black women and men (30% and 24%) and not significantly higher for Hispanic women than men (39% vs. 25%).

Table 6-6

PARENTING RATES OF MALES AND FEMALES 3 TO 5 YEARS AFTER SECONDARY SCHOOL, BY DISABILITY CATEGORY

	Percentage Who Were Parents Among:		
Primary Disability Category	All Youth	Males	Females
Learning disabled	26.9	19.4	50.0
	(4.1)	(3.9)	(10.7)
n	326	260	66
Emotionally disturbed	25.6	18.2	48.4
	(5.0)	(4.9)	(12.6)
n	198	154	44
Speech impaired	28.5	22.1	39.5
	(6.4)	(7.8)	(10.4)
n	130	80	50
Mentally retarded	18.3	9.9	31.3
	(4.0)	(4.1)	(7.1)
n	267	155	112
Visually impaired	9.7	5.3	14.8
	(3.6)	(3.4)	(7.1)
n	175	101	74
Hard of hearing	33.7	16.1	48.3
	(7.1)	(7.3)	(11.2)
n	143	76	67
Deaf	17.9	10.2	27.8
	(3.9)	(4.4)	(6.5)
n	248	135	113
Orthopedically impaired	7.7	2.1	12.9
	(3.9)	(2.6)	(7.6)
n	159	82	77
Other health impaired	18.6	2.8	35.6
	(7.3)	(4.3)	(13.1)
n	85	45	40
Multiply handicapped	3.3	3.0	3.9
	(3.1)	(3.8)	(5.2)
n	107	66	44
Deaf/blind	5.8	--	--
	(5.5)		
n	32	17	15

Standard errors are in parentheses.

Table 6-7

PARENTING RATES OF MALES AND FEMALES WITH DISABILITIES 3 TO 5 YEARS AFTER SECONDARY SCHOOL, BY YOUTH CHARACTERISTICS

	Percentage Who Were Parents Among:		
Youth Characteristics	All Youth	Males	Females
Ethnic background			
White	22.7 (2.8)	13.3 (2.6)	44.4 (6.7)
n	1,272	802	470
Black	25.7 (5.7)	24.1 (6.7)	29.7 (11.1)
n	380	243	137
Hispanic	29.3 (11.2)	24.6 (14.5)	38.7 (14.9)
n	138	74	64
Secondary school completion			
Graduate	20.5 (2.8)	13.2 (2.8)	37.7 (6.0)
n	1,246	757	489
Dropout	31.0 (5.5)	22.4 (5.5)	54.1 (5.5)
n	298	216	82
Ageout	14.3 (4.1)	14.2 (5.1)	14.5 (6.8)
n	318	195	123
Marital status			
Married/living with someone of the opposite sex	66.3 (7.0)	57.4 (8.8)	76.4 (10.4)
n	270	129	141
Single/never married	10.0 (1.9)	6.4 (1.9)	20.4 (5.0)
n	1,457	952	505
Engaged	36.8 (11.1)	32.5 (13.0)	50.7 (19.5)
n	100	68	32
Divorced/widowed	59.9 (15.0)	--	--
n	41	20	21

Standard errors are in parentheses.

Significant differences are observed, however, for youth with different secondary school completion status. Dropouts were significantly more likely to be parents 3 to 5 years after secondary school (31%) than were either graduates (20%; p<.10) or youth who aged out (14%; p<.05). Female dropouts were particularly likely to be parents (54%) relative to estimates both for other young women with disabilities (38% of graduates, 14% of those who aged out; p<.01 for the latter comparison) and for male dropouts (22%; p<.05) or graduates (13%; p<.01). This finding is not surprising in that pregnancy and or childrearing were cited by parents of 23% of female dropouts who had been out of school less than 2 years as the reason they had left school (Wagner, 1991); parents of only 2% of male dropouts reported parenthood as their reason for leaving school.

As expected, marriage was strongly associated with parenthood, with two-thirds of married youth with disabilities having children. Three-fourths of married women were parents (76%), compared with 57% of married men. However, marriage is no longer the social prerequisite for childbearing that it once was. Research has documented the rapid rise in the rate of parenthood among single persons in the general population. For example, the number of live births to unmarried women ages 20 to 24 rose from 21 births per 1,000 women in 1950 to 57 per 1,000 in 1988 (OERI, 1991). Among youth with disabilities, 20% of single women reportedly were parents, compared with 6% of single men (p<.01). Single parenthood was significantly more common among young women with disabilities than among young women in the general population (20% vs. 12%; p<.10); the rates of parenthood among single men were similar, regardless of disability.

Overall, single mothers constituted 13% of young women with disabilities who had been out of secondary school 3 to 5 years. Single mothers were primarily minority women (55%), although minorities were only 35% of youth with disabilities as a whole. Their average age was 22. More than one-fourth of single mothers were high school dropouts (26%). Almost half of single mothers with disabilities (49%) lived with their parents or other adult family members, 19% lived with a roommate, and 31% lived alone with their children.

Parenthood may be, by choice or necessity, an alternative to participating in activities outside the home, such as employment, particularly for mothers. Findings reported in Chapter 3 suggested that, among young women with disabilities who were not working outside the home and were not looking for work, 42% reported that raising children and household responsibilities were reasons for not seeking employment; only 2% of young men who were not looking for work reported family responsibilities as a reason for not seeking employment (p<.001).

Table 6-8 provides further evidence that mothers with disabilities were less likely than women without children to be involved in common activities outside the home. For example, only 31% of young mothers were working competitively, compared with 46% of young women who were not mothers. Similarly, 48% of mothers were engaged in work- or school-related activities outside the home, compared with 70% of young women without children ($p<.10$). No such differences were observed for young men with disabilities; fathers were not more or less likely to be involved in work, postsecondary education, or other productive activities outside the home than were young men who were not fathers.

Table 6-8

VARIATIONS IN WORK- AND SCHOOL-RELATED ACTIVITIES OUTSIDE THE HOME, BY GENDER AND PARENTING STATUS OF YOUTH WITH DISABILITIES 3 TO 5 YEARS AFTER SECONDARY SCHOOL

	Females		Males	
Out-of-Home Activities	Mothers	Non-Mothers	Fathers	Non-Fathers
Percentage of youth who were competitively employed	30.7 (9.5)	45.9 (6.2)	70.3 (8.6)	63.1 (3.6)
n	176	507	117	1,000
Percentage of youth who attended any postsecondary school	7.5 (5.4)	9.6 (3.6)	1.2 (1.9)	5.5 (1.7)
n	175	508	121	1,019
Percentage of youth who were productively engaged[a] outside the home in the preceding year	48.4 (10.7)	69.6 (5.7)	84.6 (7.1)	80.8 (2.9)
n	163	493	108	975

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[a] Productive activities outside the home were defined as employment, whether paid or volunteer; postsecondary school enrollment; or participation in job training (see Appendix C for details of variable construction).

Standard errors are in parentheses.

Group Memberships

In addition to the kinds of informal social interactions among friends and family members discussed thus far, young people can give and receive social support by participating in organized social activities, through which they also can develop and demonstrate ties to their communities. In both 1987 and 1990, parent/youth interviews asked whether in the preceding year youth had belonged to any social or community groups. The 1990 interview also asked how often youth met with such groups in a typical month.

Earlier analyses of the NLTS (Newman, 1991) demonstrated that group memberships were much more common for young people with disabilities while they were in secondary school than in the first 2 years after leaving school. School appears to be a context in which many organized groups operate, offering opportunities for social involvement to students that are less common when students leave school. Overall, 41% of secondary school students were reported to have belonged to school or community groups in the preceding year, compared with 21% of youth who had been out of school up to 2 years ($p<.001$).

Figure 6-5 demonstrates that the rate at which young people with disabilities belonged to social or community groups continued to decline as time passed after high school. Whereas 28% of youth were reported to have belonged to groups in the preceding year when they had been out of school less than 2 years, later, 21% had been group members in the preceding year, a decline of 7 percentage points ($p<.10$).[*] Only 13% of youth who were not group members in the first 2 years out of school became members later, whereas 56% of group members in the early years were nonmembers later.

There were modest declines in group memberships for virtually all disability categories, the largest being a decline of 21 percentage points for those with speech impairments ($p<.05$) and 10 percentage points for those with learning disabilities and with health impairments ($p<.10$ for those with learning disabilities).

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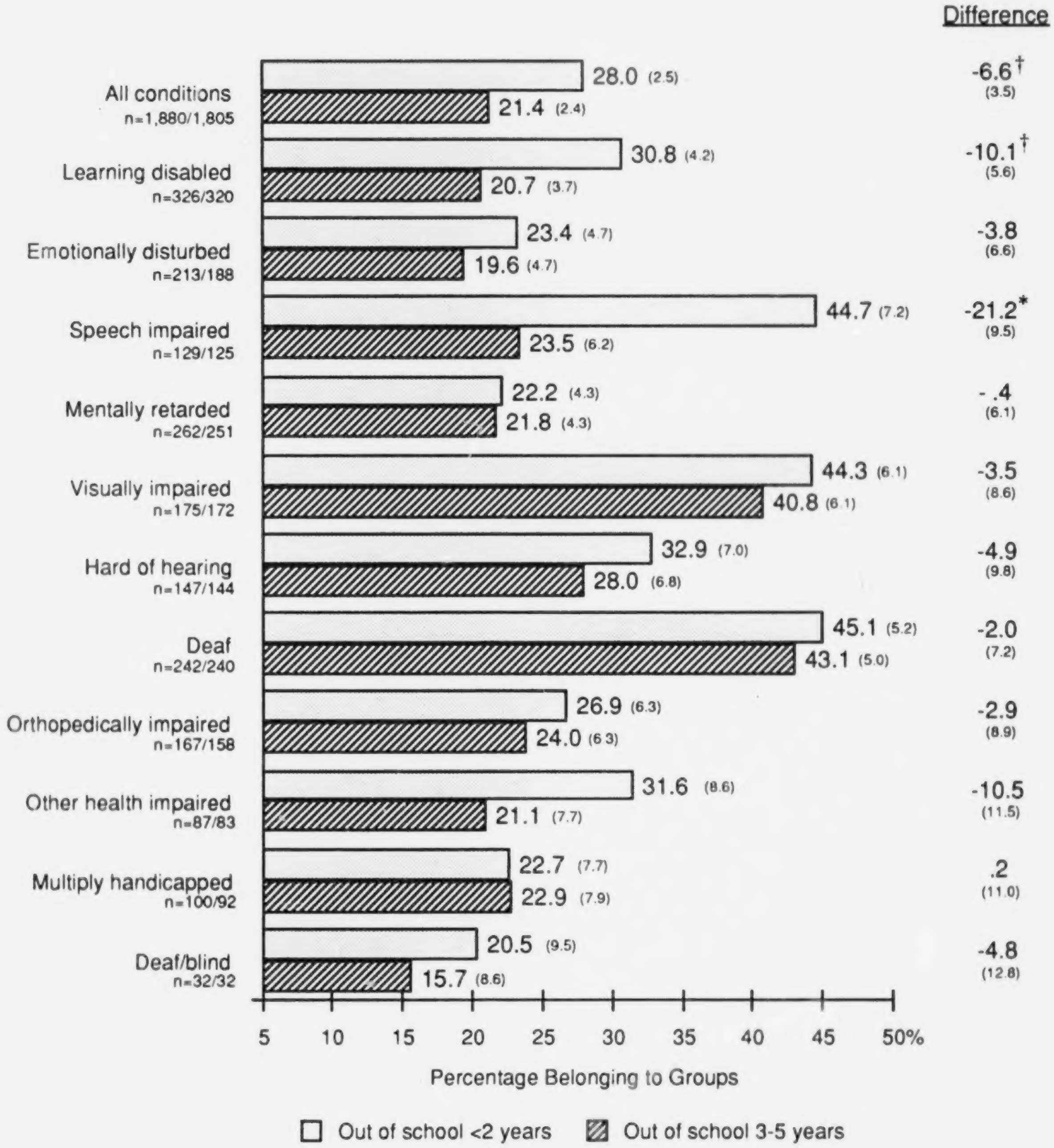
[*] This decline may somewhat understate the rate of decline we would observe if data for 1987 and 1990 had been obtained entirely from parents. As described in Chapter 1, 52% of youth who had been out of school 3 to 5 years responded to portions of the 1990 interviews for themselves. From a subsample of cases for which we asked identical questions of both parents and youth, we have identified a tendency for youth to report a higher rate of social involvement than parents do. For example, when parents of out-of-school youth and the youth themselves were both asked whether the youth belonged to any social or community groups, parents and youth agreed in their responses in 70% of cases (Table 1-3, Chapter 1). When they disagreed, youth were twice as likely to report a group membership when parents reported none (20% of cases) than to report no membership when parents had reported one (10% of cases). Hence, data for youth 3 to 5 years out of secondary school probably indicate somewhat more frequent group memberships than would result if parents had been the sole respondents, as they were in the earlier time period. Because the degree of reliance on youth responses, rather than parents, was highest for youth who were visually impaired and other health impaired (Table 2-1, Chapter 2), the declines in group memberships in these categories may be particularly underestimated.



Standard errors are in parentheses.

† $p < .10$, * $p < .05$

FIGURE 6-5 GROUP MEMBERSHIP OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

When they had been out of secondary school 3 to 5 years, youth who were visually impaired or deaf were significantly more likely than youth with disabilities as a whole to have belonged to groups in the preceding year (41% and 43% vs. 21%; p<.01 and .001). This finding may be related to the fact that youth in those disability categories also were the most likely to be enrolled in postsecondary schools (see Chapter 3). Their postsecondary schools may have been the context for greater group participation, similar to the higher rates noted for youth while they were in secondary school.

Young women experienced a greater decline in group memberships than did young men (Table 6-9). When they had been out of secondary school up to 2 years, 29% of young women had belonged to groups in the preceding year, a rate that dropped to 17% later, a

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Table 6-9

GROUP MEMBERSHIP OF OUT-OF SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

	Percentage of Youth Belonging to School/Community Group(s) When They Were Out of Secondary School:			
Youth Characteristics	<2 Years	3-5 Years	Difference Between <2 and 3-5 Years	n
Gender				
Male	27.5 (3.0)	23.5 (2.9)	-4.0 (4.2)	1,176/1,123
Female	29.2 (4.7)	16.8 (4.1)	-12.4* (6.2)	704/704
Ethnic background				
White	29.7 (3.0)	21.3 (2.8)	-8.4* (4.1)	1,286/1,231
Black	28.4 (5.7)	22.5 (5.7)	-5.9 (8.1)	385/361
Hispanic	13.7 (8.3)	15.4 (9.0)	1.7 (12.2)	143/135
Secondary school completion				
Graduate	35.3 (3.3)	25.3 (3.0)	-10.0* (4.5)	1,184/1,214
Dropout	14.1 (3.9)	13.5 (4.2)	-0.6 (5.7)	321/286
Ageout	30.3 (5.4)	27.4 (5.3)	-2.9 (7.6)	323/302

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*p <.05

Standard errors are in parentheses.

decline of 12 percentage points (p<.05). The rate of group membership for young men declined by only 4 percentage points, a difference that is not statistically significant. Perhaps both the higher level of and the sharper rise in the frequency of parenthood among young women relative to men noted earlier relates to the reduction in group participation among women. Their child-raising responsibilities may have limited their participation in social or community group activities, as they apparently did work- and education-related activities outside the home.

Among youth with different ethnic backgrounds, only white youth showed a statistically significant decline in group membership, from 30% to 21% belonging to groups (p<.05). Similarly, only graduates had a significant decline in group memberships, from 35% to 25% (p<.05). When they had been out of school 3 to 5 years, there were no significant differences in group memberships based on gender or ethnic background. However, youth who had dropped out were significantly less likely to be group members (14%) than were those who graduated (25%; p<.05) or aged out of school (27%; p<.05).

When youth did belong to groups, most did not meet with them frequently. Considering all the groups they had belonged to in the preceding year, a majority of youth (61%) were reported to get together with those groups less often than once a month, on average. Another 19% of youth reportedly met with groups they belonged to at least once but less often than twice a month, while 10% of youth had group meetings twice a month or more.

Interestingly, group membership as an aspect of a youths' social networks appears to be largely independent of the informal friendship aspect of that network. Youth who were reported never to see friends or family members socially or to see them less often than once per week were almost as likely to belong to social or community groups as were youth who saw others socially 6 or 7 days a week (22% vs. 27%, not a statistically significant difference).

Social Isolation

The discussion thus far has demonstrated that a large majority of youth with disabilities were reported to see friends or family members socially at least weekly. Almost 1 in 5 youth were married or living with someone of the opposite sex, and 6% were engaged. In addition, 21% of youth belonged to social or community groups when they had been out of school 3 to 5 years.

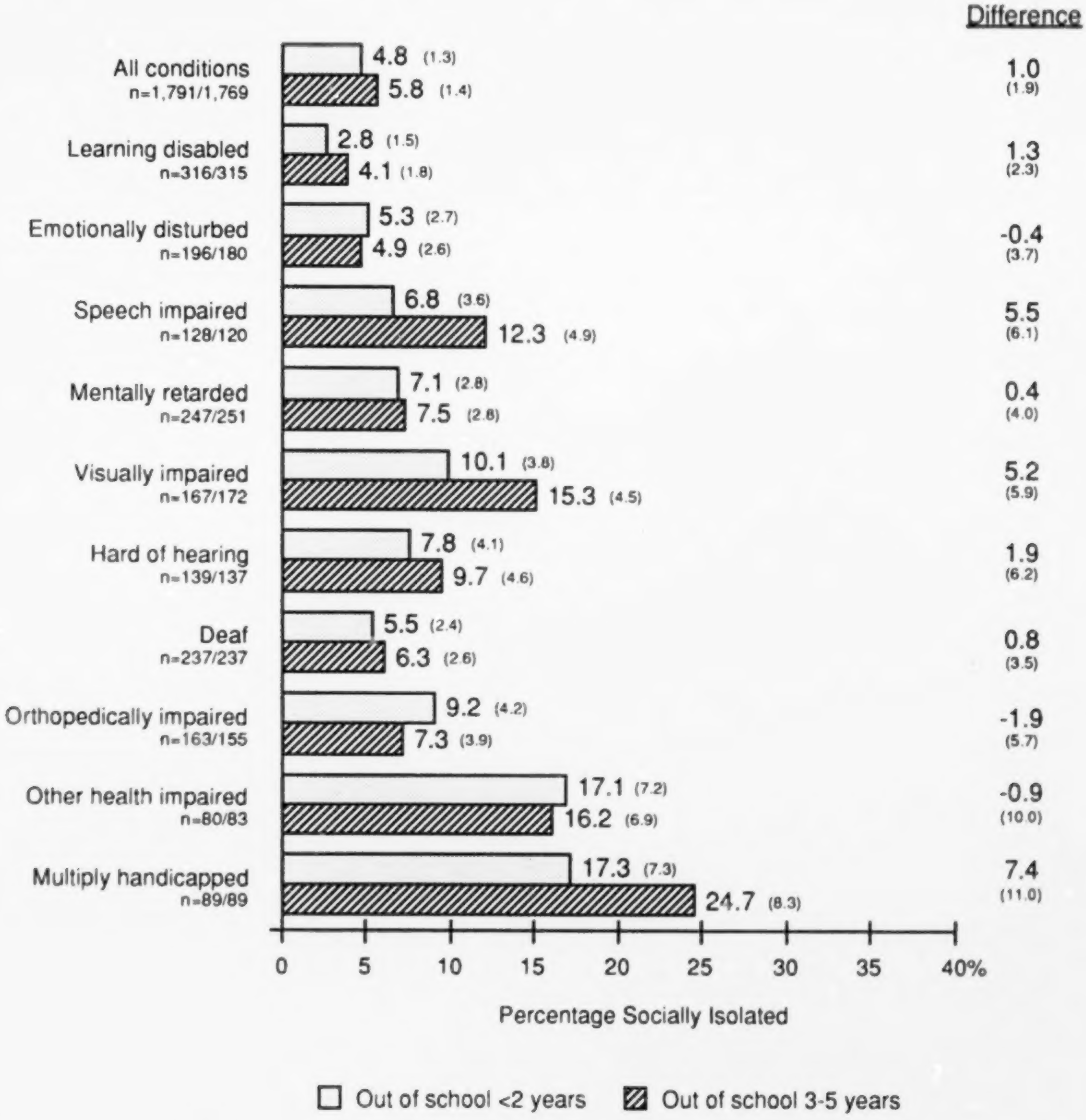
These findings depict active social networks for many youth. Any one of these forms of social involvement could provide youth with the social support they may need. But are there youth who did not have any of these forms of social support?

Figure 6-6 depicts findings regarding the extent to which youth with disabilities experienced relative social isolation, defined as: seeing friends or family members socially less often than weekly, not belonging to any social or community groups in the preceding year, and not being either married or engaged. We find that very few youth had social networks limited in all of these ways. Only 5% of youth were socially isolated by the NLTS definition when they had been out of school less than 2 years, and 6% were socially isolated later.

Although the changes in the degree of social isolation between the two time periods were not statistically significant for any disability category, youth in some categories were significantly more likely to be socially isolated than those in others. For example, 24% of youth with multiple handicaps were socially isolated when they had been out of school 3 to 5 years, compared with 4% of youth with learning disabilities ($p<.05$). Social isolation also was relatively more common for youth with health impairments (16%) or visual impairments (15%), compared with youth as a whole ($p<.05$).

There were no significant changes over time in the rates of social isolation for youth who differed in gender, ethnic background, or secondary school completion status. Neither were there differences in the levels of isolation when youth were 3 to 5 years out of school by gender or ethnic background. However, youth who aged out of school were significantly more likely to be socially isolated 3 to 5 years after secondary school (14%) than were high school graduates (5%; $p<.05$). High school dropouts did not differ significantly from either graduates or those who aged out in their rate of social isolation (6% were isolated).

Social isolation appears to be a somewhat fluid state. Table 6-10 demonstrates that fewer than 1% of youth with disabilities were socially isolated at both time points considered in the NLTS, a rate that did not surpass 4% for youth in any disability category. Further, virtually as many youth moved out of a state of isolation as moved into it over the time period. Having a limited social network at one point in time apparently does not imply that a youth will have as limited a social network at a different point in his or her life.



Standard errors are in parentheses.

"All conditions" includes youth in all 11 federal disability categories; data are reported separately only for categories with at least 30 cases.

FIGURE 6-6 SOCIAL ISOLATION OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

Table 6-10

PATTERNS OF SOCIAL ISOLATION OVER TIME OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

	Social Isolation Pattern[a]				
Disability Category	Isolated at Both Times	Became Isolated	Became Involved	Involved at Both Times	n
All conditions[b]	.7 (.5)	5.0 (1.4)	4.1 (1.2)	90.2 (1.9)	1,623
Learning disabled	0 --	4.0 (1.9)	3.0 (1.6)	93.0 (2.5)	291
Emotionally disturbed	2.6 (2.0)	1.9 (1.7)	3.1 (2.2)	92.5 (3.3)	163
Speech impaired	1.1 (1.6)	12.2 (5.1)	6.6 (3.8)	80.1 (6.2)	113
Mentally retarded	1.1 (1.2)	6.6 (2.8)	5.8 (2.6)	86.5 (3.8)	226
Visually impaired	3.1 (2.3)	9.6 (3.8)	6.9 (3.3)	80.5 (5.2)	159
Hard of hearing	4.2 (3.3)	2.5 (2.5)	3.8 (3.1)	89.5 (5.0)	126
Deaf	.3 (.6)	5.2 (2.4)	5.4 (2.5)	89.1 (3.4)	222
Orthopedically impaired	1.4 (1.8)	5.6 (3.6)	7.8 (4.2)	85.2 (5.6)	146
Other health impaired	3.7 (3.8)	11.9 (6.5)	14.7 (7.1)	69.8 (9.2)	74
Multiply handicapped	3.0 (3.6)	19.5 (8.3)	6.2 (5.1)	71.4 (9.5)	77

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[a] Isolated at both times = not socially involved at interview point in 1987 or 1990.
Became isolated = socially involved at interview point in 1987 but not in 1990.
Became involved = not socially involved at interview point in 1987 but was in 1990.
Involved at both times = socially involved at interview points in 1987 and 1990.

[b] "All conditions" includes youth in all 11 federal disability categories. Percentages are reported separately only for categories with at least 30 youth.

Standard errors are in parentheses.

Neither did social isolation, the way the NLTS has defined it, imply that isolated youth were not in contact with other people regularly in ways other than social interactions or group meetings. Only 7% of socially isolated youth lived alone; 74% lived with adult family members, usually parents, and 5% lived with roommates. More than one-third of youth who were socially isolated (37%) were working competitively full or part time, and 10% were engaged in volunteer, sheltered, or supported employment that would bring them into contact with others. Further, 5% of socially isolated youth were enrolled in postsecondary schools, and 7% reported spending most of their time involved in an organized program other than school or training programs (e.g., day activity centers). These activities may provide a context for friendships and interactions that contribute importantly to the quality of life of youth with otherwise limited social networks.

Citizenship

As people mature, their sense of responsibility often expands. From a focus in childhood largely on oneself and one's own behavior and actions, we typically broaden our responsibility and commitments to include immediate friends or family. Later, we may include in our sphere of responsibility groups with whom we share common interests or goals. At the broadest level, we may extend our responsibilities to encompass our communities and society at large. Adults can exhibit or act on their broadened sense of citizenship or social responsibility in many ways. One way is to participate in the democratic process by voting. Another very basic way is to abide by the laws and regulations that govern our communities and society. Here, we report on aspects of citizenship for youth with disabilities by examining the extent to which youth were registered to vote and the rate at which they failed to abide by laws and regulations to the point that they were arrested.

Being Registered to Vote

American youth as a group vote less frequently than older citizens. For example, 36% of eligible 18- to 24-year-olds voted in the 1988 presidential election, compared with 61% of eligible citizens 25 years old or older (OERI, 1991). It is unknown whether the voting behavior of youth with disabilities mirrors that of youth in the general population. Although the NLTS has not investigated actual voting behavior, the 1990 interview did ask parents or youth whether youth were registered to vote (voter registration was not measured in the 1987 interview).

About half of youth with disabilities (51%) who had been out of secondary school 3 to 5 years were registered to vote,[*] as shown in Table 6-11. This compares with findings from the High School and Beyond study that 66% of 1980 high school sophomores were registered to vote in 1986, when most had been out of secondary school 4 years (CES, 1987). The voter registration rate was fairly similar for youth in most disability categories, although youth who had mental retardation (41%) or serious emotional disturbances (42%) were significantly less likely to be registered to vote than were youth classified as learning disabled or speech impaired (58% and 62%; $p<.05$) or visually impaired (56%; $p<.10$).

Being registered to vote was significantly more common among young men with disabilities than women (55% vs. 42%; $p<.05$) and among black youth (64%) than white (48%; $p<.05$) or Hispanic youth (41%; $p<.10$)). The higher rate of voter registration among black youth with disabilities contrasts with the voting behavior of youth in the general population (OERI, 1991), among whom voting rates for white and black youth were similar (37% and 35% of eligible 18- to 20-year-olds voting) and higher than the rate for Hispanic youth (17%).

Regarding school completion, high school graduates were significantly more likely to be registered to vote (58%) than either dropouts (42%; $p<.05$) or those who aged out (32%; $p<.01$). To the extent that belonging to social or community groups and voting both demonstrate an affiliation with one's community, it is not surprising that the likelihood of being registered to vote was higher among group members (61%) than among youth who did not belong to social or community groups (48%; $p<.10$).

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[*] The question regarding voter registration was included in the parent/youth interview in a section of questions not asked of youth who were considered severely impaired, defined as: severely/profoundly mentally retarded, multiply handicapped, deaf/blind, autistic, or institutionalized emotionally disturbed. These youth were assigned values equivalent to no on this item. To the extent they actually were registered to vote, the NLTS underestimates the overall voter registration rates.

Table 6-11

VOTER REGISTRATION RATE OF YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS, BY YOUTH CHARACTERISTICS

	Youth Were Registered to Vote		
Youth Characteristics	Percentage	Standard Error	n
All youth	50.8	2.9	1,781
Primary disability category			
Learning disabled	57.9	4.6	309
Emotionally disturbed	42.3	5.8	188
Speech impaired	62.4	7.1	124
Mentally retarded	41.2	5.2	255
Visually impaired	56.2	6.2	170
Hard of hearing	48.0	7.8	135
Deaf	50.8	5.4	215
Orthopedically impaired	55.2	7.5	153
Other health impaired	57.9	9.4	83
Multiply handicapped	0.0	.0	115
Deaf/blind	0.0	0	34
Gender			
Male	54.9	3.4	1,112
Female	41.6	5.5	669
Ethnic background			
White	47.8	3.4	1,222
Black	64.1	6.4	352
Hispanic	41.0	12.2	130
Secondary school completion			
Graduate	58.4	3.5	1,188
Dropout	42.1	5.9	283
Ageout	32.0	5.6	302
Youth belonged to school or community group			
Yes	61.3	6.0	479
No	48.3	3.4	1,240

Rates of Arrest

Perhaps the antithesis of good citizenship is the failure to abide by society's laws and regulations to the extent that one's actions result in arrest. The NLTS investigated the extent to which youth were reported to have been arrested both when youth had been out of school less than 2 years and 3 to 5 years after secondary school.*

Other NLTS analyses (Marder and D'Amico, 1992) note that the arrest rate of youth with disabilities who were 15 to 20 years old and no more than 2 years out of school was significantly higher than the rate for youth in the general population (12% vs. 8%; p<.001). Further, the arrest rate of youth with disabilities climbed sharply as time passed after high school. We find that 19% of youth with disabilities were reported by parents to have been arrested by the time they had been out of high school 2 years, and almost 30% had been arrested when they had been out of school 3 to 5 years; 10% of youth with disabilities were arrested for the first time in those 3 years (p<.01).

Figure 6-7 demonstrates that the incidence of arrest was quite low among youth in most disability categories; only 4% of youth with visual impairments who had been out of school 3 to 5 years and 8% of those with health impairments had been arrested at any time previously. The relatively high arrest rate and its sharp increase over time were attributable largely to youth with serious emotional disturbances and, to a lesser extent, those with learning disabilities.

Youth classified as seriously emotionally disturbed not only had the highest rate of arrest in the early years after high school (37%), they also experienced the sharpest increase in the percentage that had been arrested. More than 1 in 5 youth with serious emotional disturbances (21%) were reported to have been arrested for the first time in the ensuing 3 years (p<.01), so that 58% of youth with emotional disturbances had been arrested by the time they had been out of secondary school 3 to 5 years. This arrest rate was significantly higher than that for youth in any other category, including those with learning disabilities, 31% of whom had been arrested by the second time period (p<.001).

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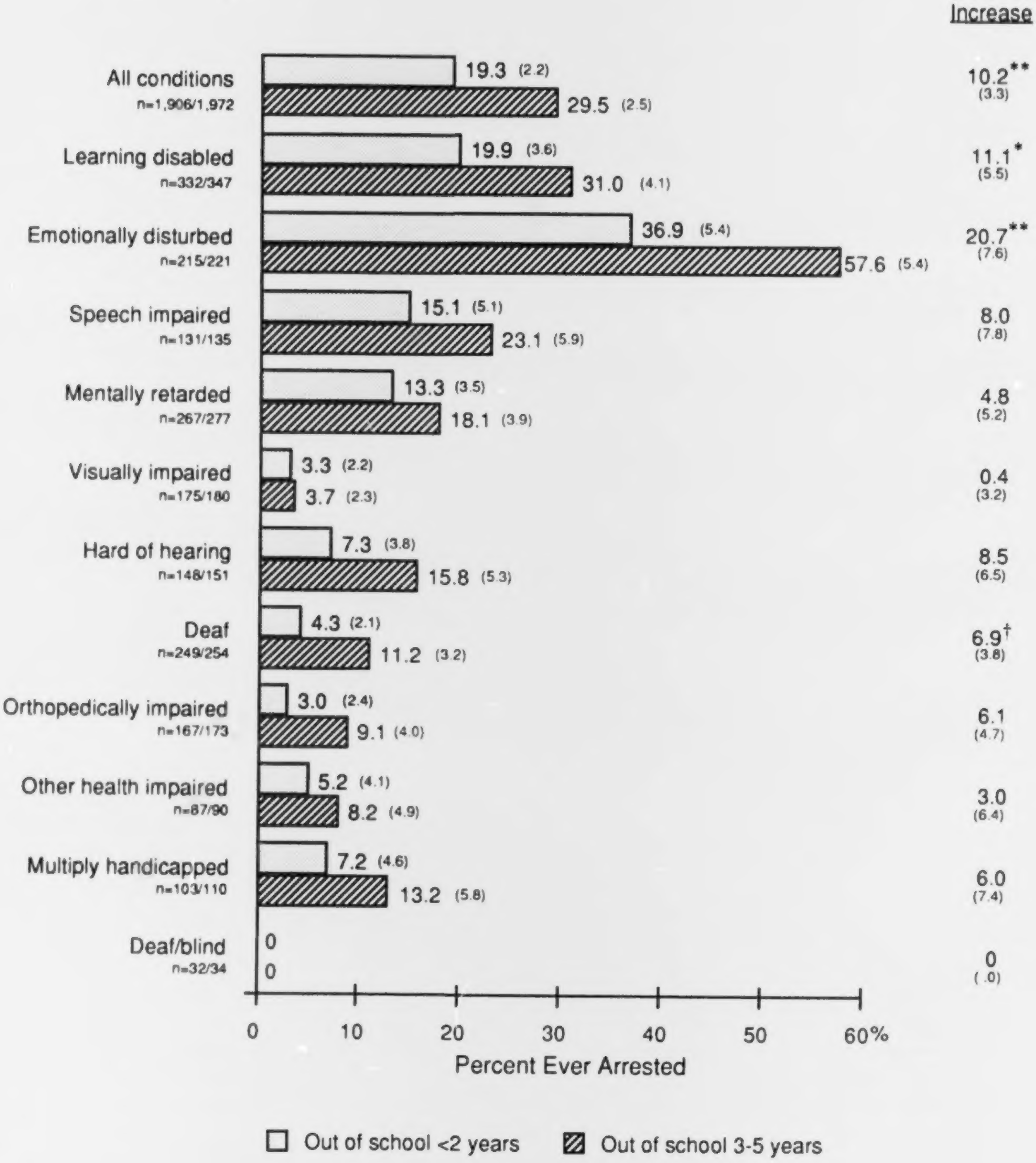
* Interestingly, 47% of youth reported by parents to have been arrested at some time when they had been out of school less than 2 years were reported 3 years later never to have been arrested. The majority of discrepant reports (62%) were among youth respondents to the second interview, who denied having been arrested when parents earlier had reported an arrest. Overall, 26% of the cases in which adults were respondents in both 1987 and 1990 had different respondents (e.g., the mother in 1987, the father in 1990), suggesting that perhaps the original respondent knew of an arrest not known by the second respondent. Alternatively, respondents at the later time may not have wanted to acknowledge an arrest occurring to a minor child, which often is removed from a child's record when he or she becomes an adult. Or respondents may simply have been giving the socially more acceptable answer that youth had never been arrested. Because of these discrepancies, we consider a youth to have been arrested if a respondent to either interview reported an arrest. This decision may somewhat overstate the arrest rate if the original report of an arrest was wrong and the later denial was correct. However, the chance of this overstatement is offset by the fact that we may be understating the extent of new arrests if youth had been arrested for the first time between 1987 and 1990 and denied the arrest when interviewed in 1990.



Standard errors are in parentheses.

† $p < .10$; * $p < .05$; ** $p < .01$

FIGURE 6-7 ARREST RATES OF OUT-OF-SCHOOL YOUTH, BY DISABILITY CATEGORY

We find that both the rate of arrest in the early years after high school and the increase in the arrest rate in the subsequent years was significantly higher among males than females with disabilities (Table 6-12), a finding consistent with research on the general population of youth (Crowley, 1981). Young men experienced a 13 percentage point rise in the arrest rate, from 25% in the first 2 years after high school to 38% later ($p<.01$). Rates for women rose only from 7% to 11% over the same time period. These gender differences are not surprising given the predominance of males among youth classified as learning disabled or emotionally disturbed, as discussed in Chapter 1. However, even within each disability category, men consistently were more likely to have been arrested than women, significantly so in the cases of youth classified as emotionally disturbed (45% vs. 14%; $p<.01$), mentally retarded (20% vs. 3%; $p<.01$), or speech impaired (22% vs. 3%; $p<.05$).

Table 6-12

ARREST RATES OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

	Percentage of Youth Arrested:		Difference	
Youth Characteristics	By 2 Years After High School	By 3-5 Years After High School	Between <2 and 3-5 Years	n
Gender				
Male	24.7 (2.9)	37.6 (3.1)	12.9** (4.2)	1,192/1,238
Female	7.3 (2.8)	10.7 (3.3)	3.4 (4.3)	714/734
Ethnic background				
White	16.5 (2.5)	27.1 (2.9)	10.6** (3.8)	1,302/1,333
Black	28.4 (5.7)	39.8 (6.1)	11.4 (8.3)	393/408
Hispanic	13.6 (8.1)	22.1 (9.7)	8.5 (12.6)	146/148
Secondary school completion status				
Graduate	7.1 (1.8)	15.8 (2.4)	8.7 (3.0)	1,191/1,308
Dropout	37.1 (5.7)	56.4 (5.6)	19.3 (8.0)	307/320
Ageout	7.4 (3.0)	9.5 (3.3)	2.1 (4.5)	332/336

** $p <.01$

Standard errors are in parentheses.

White and black youth both experienced an 11 percentage point increase in arrest rates over the time period studied by the NLTS (although the increase was statistically significant only for the larger sample of white youth). However, at both time points, the arrest rate was significantly lower for white than for black youth (16% vs. 28% up to 2 years after high school, 27% vs. 40% later; p<.10). Arrest rates for Hispanic and other youth were not significantly different from those of white or black youth at either time point.

Given that the arrest rate was highest for categories of youth that also had high dropout rates, it is not surprising that the arrest rate and the increase in the arrest rate were highest for dropouts. Table 6-12 shows that 56% of dropouts had been arrested when they were out of school 3 to 5 years, a 19 percentage point increase over their rate 3 years earlier (p<.05). Among graduates, on the other hand, significantly fewer had been arrested (16%; p<.001), an 8 percentage point increase over the earlier arrest rate (p<.01). Youth who aged out of secondary school had the lowest rates of arrest overall, 10% 3 to 5 years after leaving secondary school.

The relationship of dropping out to arrest was consistent even for youth that shared the same disability category. In all categories, the arrest rate was higher for dropouts than for graduates 3 to 5 years after leaving school. Among dropouts with emotional disturbances, the arrest rate reached 73%, compared with 35% for graduates classified as seriously emotionally disturbed (p<.001). The difference between arrest rates for dropouts and graduates also was statistically significant for youth with learning disabilities (62% vs. 15%; p<.001) and mental retardation (35% vs. 13%; p<.10). Similarly, dropouts of either gender were more likely to have been arrested than graduates (49% of male dropouts vs. 10% of male graduates, p<.001; 20% of graduates vs. 1% of dropouts among females; p<.05).

Not surprisingly, having been arrested appears to be related to youths' more general abilities to fit in and get along. For example, we find that youth whose parents reported they got along with others "not very well" or "not at all well" were significantly more likely to have been arrested (46%) than youth whose parents reported they got along with others "very well" or "pretty well" (27%; p<.10). Somewhat surprisingly, however, the arrest rate was not significantly related to other measures of citizenship or social integration. Youth who belonged to social or community groups, for example, did not have a significantly lower rate of arrest than nonmembers, nor did registered voters relative to those who were not registered.

In the American judicial system, being arrested implies only suspicion of a crime, not guilt of a crime. Many arrests never result in suspects' being charged for a crime or in being incarcerated except briefly. Although the NLTS has not investigated directly whether youth were convicted of the crime(s) for which they were arrested, we do know the extent to which youth who had ever been arrested were reported to be living in a jail or correctional facility at the time of the 1990 interview or in the preceding year. In this context, youth were reported as incarcerated only if the correctional facility was considered their residence, the place where they spent at least 5 nights a week.

Overall, 11% of youth who had been arrested when they had been out of school 3 to 5 years were reported to have lived in a correctional facility in the preceding year. Further, 16% of youth out of school 3 to 5 years who had been incarcerated in the preceding year also were living in a correctional facility when they had been out of school less than 2 years. (It is not known whether incarceration was continuous throughout the time period.) Although youth classified as seriously emotionally disturbed were more likely to have been arrested than other youth, among those arrested they were not more likely than others to be incarcerated.

Summary

In this chapter, we have examined several aspects of the social involvement of young people with disabilities after secondary school. The following conclusions are evident, relative to the research questions guiding this work.

What were the trends in the social involvement of youth with disabilities as the years after high school passed?

- We note a marked decline in the frequency of youths' social interactions. For example, there was a significant decline in the percentage of youth seeing friends or family members socially at least 4 days a week, from 52% to 38% over the 3-year period studied by the NLTS. Similarly, group memberships became less common, with the likelihood of youth belonging to groups declining from 28% to 21%. However, most youth had frequent contacts with parents when they had been out of secondary school 3 to 5 years. More than half lived with parents, and 29% had contact with parents more than once a week.

- Despite less frequent social interactions with friends, youth were not moving away from social interactions entirely. There was no significant increase in the percentage of youth seeing friends or family members socially less often than weekly. Further, only 5% to 6% of youth at either time period were socially isolated—i.e., seeing friends less often than weekly, not belonging to groups, and not being married or engaged.

- Youth may have been turning more to their own newly formed households and families for social support. There was a steep increase in the rate at which young people with disabilities were married or living with someone of the opposite sex (7% within 2 years after secondary school, 19% later).

- Almost 1 in 4 youth with disabilities were parents when they were out of secondary school 3 to 5 years (24%). Among those who were married, two-thirds were parents (66%), as were 10% of youth who were single and 60% of those who were divorced or widowed.

- Arrest rates climbed steeply for youth with disabilities. Two years after leaving secondary school, 19% were reported to have been arrested. In the subsequent 3 years, another 10% had been arrested for the first time, bringing the rate of arrest to almost 30% when youth had been out of secondary school 3 to 5 years.

How do trends in outcomes for youth with disabilities compare to youth in the general population?

- Many of the aspects of social involvement we have examined for youth with disabilities do not have appropriate comparisons for youth in the general population (e.g., group memberships, frequency of seeing friends). However, we do note that the increase in the marriage rate for young people with disabilities was significantly lower than that for youth in the general population. Young people with disabilities had a 13 percentage point increase in their rate of marrying or living with someone of the opposite sex, compared with a 20 percentage point gain for youth in general. With the more rapid increase among youth in the general population, they were significantly more likely than youth with disabilities to be married 3 to 5 years after secondary school (30% vs. 19%; $p<.001$).

- Despite the fact that they were less likely to be married, youth with disabilities were just as likely to be parents as youth in the general population (24% vs. 21%). This similarity between youth with disabilities and the general population is attributable to similar rates of fatherhood among young men. Among young women, those with disabilities were significantly more likely to be parents than were women in the general population. When they had been out of secondary school 3 to 5 years, 41% of women with disabilities were mothers, compared with 28% of women in the general population.

- Considering citizenship responsibilities, youth with disabilities were less likely than youth in general to be registered to vote (51% vs. 66%). They were significantly more likely in the first 2 years after secondary school to have been arrested, and the rate of arrest for youth with disabilities climbed in the subsequent 3 years.

Which youth were experiencing relatively better or worse social outcomes?

- Youth with learning disabilities were among those with the greatest social involvement. They saw friends frequently and maintained frequent contacts with family members when they left home. Although they experienced a fairly steep decline in group membership rates (from 31% to 21% belonging to groups), 91% of youth with learning disabilities saw friends socially at least weekly when they had been out of secondary school 3 to 5 years; only 4% were socially isolated by the NLTS definition. They were virtually as likely as youth in the general population to be married or living with someone of the opposite sex and to be parents. However, this category of youth also had among the highest rates of arrest of any group, 31% 3 to 5 years after secondary school.

- The obstacles to social involvement presented by severe disabilities are evident. Youth with multiple handicaps or who were deaf/blind were the least socially involved in either informal friendship or family networks or in more organized social activities. Of all groups with disabilities, they were least likely to see friends often and least likely to belong to social groups. They were unlikely to be married or parents, but most likely to be socially isolated.

- Youth classified as seriously emotionally disturbed had quite active informal friendship networks, being among the most likely to see friends often and the least likely to be socially isolated. However, they demonstrated a pattern of relatively poor integration in society more broadly. They were among the least likely groups of youth to belong to social or community groups or to be registered to vote. Most worrisome, by wide margins they were more likely to have been arrested than any other group of youth. Their rate of arrest rose from 40% of youth in the first 2 years after high school to 58% 3 years later. Among dropouts with emotional disturbances, the arrest rate was 73%.

- There were marked differences in the social experiences of young men and women with disabilities:
  - Young women were less socially involved than men. For example, young women experienced a significant decline in the extent of their group memberships (29% belonged to groups in the early years after secondary school, 17% later). Young men did not experience a similar decline. Three to 5 years after secondary school, 27% of women with disabilities saw friends or family members socially at least 4 days a week, compared with 43% of men.

  - Marriage and family formation may have been a partial explanation for the lower rate of social involvement among young women. Compared with men, young women with disabilities were significantly more likely to have been married in the first 2 years after high school, and they experienced a steeper increase in their rate of marriage in the subsequent 3 years. Three to 5 years after high school, women were twice as likely as men to be married or living with someone of the opposite sex (30% vs. 15%).

  - Women with disabilities were more than twice as likely as young men to be parents (41% vs. 16%). More than three-fourths of married women with disabilities were mothers (76%), compared with 57% of married men with disabilities who were fathers. One in five single women with disabilities were mothers; only 6% of single men were fathers. The rate of single motherhood among young women with disabilities was significantly higher than that for women in the general population (20% vs. 12%).

- Black and white youth had very similar patterns of informal social involvement, seeing friends and belonging to groups at similar rates. They also were about as likely to be parents, although black youth were less likely to be married (10% vs. 23% 3 to 5 years after secondary school). This ethnic difference in marriage rates occurs only for young women. Whereas black and white men with disabilities were about equally likely to be married, black women with disabilities were significantly less likely than white women to be married (7% vs. 39%). Interestingly, black youth were more likely than white youth to be registered to vote (64% vs. 48%), but also were significantly more likely to have been arrested (40% vs. 27%).

- High school dropouts demonstrated poorer social outcomes than graduates in several respects. They were significantly less likely than graduates to belong to social or community groups (14% vs. 25%) and to be registered to vote (42% vs. 58%) 3 to 5 years after leaving school. Dropouts also were significantly more likely than other youth to be parents when they had been out of school 3 to 5 years (31% vs. 20% of graduates and 14% of those who aged out); 54% of women dropouts were mothers. More than half of dropouts had been arrested 3 to 5 years after secondary school (56% vs. 16% of graduates); in all disability categories, the arrest rate was higher among dropouts than among graduates.

- Youth who aged out of secondary school, generally those with more severe impairments, also were less well integrated socially in several ways than were high school graduates. They were less likely to see friends often (22% vs. 40%) and more likely to be socially isolated than graduates (14% vs. 5%). Similarly, they were less likely than graduates to be married (8% vs. 20%), to have children (14% vs. 20%), or to be registered to vote (32% vs. 58%). However, few had been arrested (10% when youth had been out of school 3 to 5 years).

What fluctuations in social outcomes did youth experience over time?

- Group membership appears to be quite fluid. More than 4 of 10 youth (43%) who belonged to groups when they were out of school 3 to 5 years had not been group members earlier. Similarly, 21% of nonmembers in their later years had belonged to groups earlier.

- Youth with disabilities were moving both into and out of marriages. Overall, 75% of youth who were married when out of school 3 to 5 years had entered into marriage in the 3-year period studied in the NLTS. Over the same time period, at least 15% of youth who were married when they were out of school less than 2 years had had their marriages end through death or divorce.

- Fewer than 1% of youth were socially isolated at both time periods studied in the NLTS; 90% were socially involved at both time points. Youth were about as likely to move out of a state of social isolation (4%) as move into it (5%).

These findings suggest that youth with disabilities were maintaining active informal social networks involving family and friends, although the frequency of interactions was declining. Social isolation was uncommon for most groups of youth and generally not continuous over the time period studied. Contacts between parents and youth generally were quite frequent. However, three patterns evident in the discussion are cause for concern.

First, findings regarding the two aspects of citizenship we investigated—being registered to vote, and arrest rates—demonstrate that youth with disabilities were not exhibiting the positive aspects of good citizenship to the extent that young people in general were. Youth with disabilities were less likely to be registered to vote and more likely to have been arrested than other youth. We are moved to question why. Although inculcating the values of good citizenship is a major goal of public education, are these values sufficiently incorporated into educational programs for young people with disabilities?

A second and perhaps related concern is that dropping out of school appears to be part of a pattern of poor social integration that continues into the early adult years. Dropouts were less likely than other youth to exhibit positive aspects of community involvement, such as belonging to social or community groups or being registered to vote. They were significantly more likely than other youth to have been arrested, even when the disability category of youth was controlled. If secondary schools are teaching citizenship, dropouts with disabilities are not present in the schools to reap the benefits of that education.

A final concern involves the frequency with which young women with disabilities were mothers in their early years after leaving school—particularly single mothers. They were parents more commonly than young men with disabilities and more commonly than young women in the general population of youth. Almost one in three mothers with disabilities were single. Early parenthood, particularly single parenthood, often presents serious challenges to creating stable, financially independent families. Combined with the challenges posed by their disabilities, the young mothers we have studied, and their children, may face particularly difficult futures.

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7 MORE THAN THE SUM OF THE PARTS: LIFE PROFILES OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

by Mary Wagner

The congressional mandate that authorized the NLTS (P.L. 98-199, Sec. 8, Section 618e1) specified that it should measure the outcomes of youth with disabilities in specific areas—employment, education, independent living. In this and other reports from the NLTS, we have done so, describing the experiences of youth in terms of specific outcome measures—the employment rate, the percentage of youth who were arrested, the frequency with which youth saw friends. Each of these measures is an important indicator of one aspect of the lives of youth. But we recognize that an integrated picture of the whole of their experience cannot be drawn by concentrating only on its parts in isolation from each other. The fabric of their lives is a complex interweaving of their activities and experiences with work, school, family, friends, and living arrangements. Here, we attempt to draw a fuller picture of the lives of young people with disabilities—going beyond their individual activities to examine how their experiences blend, how they sum up to make the whole.

This effort to take a broader look at outcomes is consistent with other research regarding persons with disabilities that attempts to capture such encompassing concepts as quality of life (Park, Cameto, Tappe, and Gaylord-Ross, 1990; Cameto, 1990; Burchard, Hasazi, Gordon, Rosen, Yoe, Dietzel, and Simoneau, 1989; Hill, Rotegard, and Bruininks, 1984; Inge, Banks, Wehman, Hill, and Shafer, 1988; Schalock, 1989), community adjustment (McGrew and Bruininks, 1991; Bruininks, Thurlow, McGrew, and Lewis, 1990; Halpern, Nave, Close, and Nelson, 1986; Seltzer, 1981), and independence (Harnish, Chaplin, Fisher, and Tu, 1986). We find that the latter term, independence, provides the most appropriate overarching notion of the broad nature of youths' experiences we attempt to capture here.

The concept of independence has been defined in numerous ways (Racino, 1992). For example, Stoddard (1978, quoted in Fisher, 1989) considers independence to be the "ability to participate in society—to work, have a home, raise a family, and share the joys and responsibilities of community life" (p. 94). Hughes and Rusch (1992) imply that independence is synonymous with "individual competence...the independent performance of socially valued skills across multiple settings" (p. 209). Both of these efforts to define independence emphasize the multidimensional nature of the concept: independence encompasses multiple domains of a person's life. This emphasis on independence as the ability to function effectively in multiple domains is consistent with an "ecological" perspective; that is, the domains in which we operate—work, school, home, community—are interrelated so that the way we function in one affects and is affected by our actions in others (Brofenbrenner, 1977).

The NLTS has sought to develop outcome measures for young people with disabilities that go beyond single activities. In Chapter 6, for example, the concept of social isolation addressed a broader notion of social involvement than any one of its components—seeing friends, belonging to groups, being engaged or married. We also have developed measures that extend beyond a single domain of youths' experiences. One such effort focused on the independent functioning of people in the areas of work, training, or schooling. Building on the work of Edgar (1987) and others (Affleck, Edgar, Levine, and Kortering, 1990) and using NLTS data, Jay (1991) illuminated the concept of "productive engagement outside the home" by developing a measure indicating whether in the preceding year youth had been engaged in any of a specified set of activities related to work (paid or unpaid), job skills training, GED preparation, or postsecondary education. This thrust recognized that there are many avenues of productive activity outside the home, any of which could make valuable contributions to the lives of youth with disabilities.

Exploring the nature of productive engagement outside the home was a valuable step in developing outcome measures that extend beyond single postschool activities. Readers who are interested in this concept and in trends in productive engagement over time are encouraged to consult Appendix D, Tables D7-1 through D7-3, for data related to the trends in productive engagement for out-of-school youth.

However, the concept of productive engagement outside the home is limited as a measure of general independence in several important ways. Its most serious limitation involves its exclusive focus on work and schooling; aspects of residential and social functioning are not incorporated in the construct of productive engagement outside the home. Recognizing that we are more than what we do, a broader perspective on independence is required.

Also, whether a youth is productively engaged is heavily dependent on his or her employment status. When they had been out of school less than 2 years, 77% of productively engaged youth earned that status by being employed. Postsecondary education, volunteer activities, and job training were forms of engagement for relatively few youth. By the time they had been out of school 3 to 5 years, the proportion of engaged youth that were employed had risen to 85% (Table D7-1, Appendix D). Hence, analyses of the levels of, trends in, or contributors to productive engagement closely reflect what is already known from analyses of the same aspects of employment. As such, the measure of productive engagement does relatively little to extend our understanding of youth who made successful transitions to adult independence.

Here, we attempt to surmount the limitations noted above and explore a measure of independence that includes domains of life other than work and schooling. Specifically, we explore a measure that encompasses the extent to which youth were functioning independently in three important domains:

- Engagement in work- or education-related activities outside the home. Were youth engaged in work, schooling, or job training? To what extent (i.e., full time, part time, volunteer work, sheltered jobs)?
- Residential arrangements. Were youth living independently? With family members? In institutions?
- Social activities. Were youth socially isolated—not seeing friends, belonging to groups, or establishing relationships through engagement or marriage?

We have sought a measure that captures the extent to which youth were independent across these domains (e.g., independent in engagement and residential domains vs. the engagement domain alone) as well as indicates how independently youth were functioning in a particular domain (e.g., whether youth were working full time for pay vs. doing volunteer work; whether youth were living independently or in supervised settings). We also have sought a measure that is conceptually ordinal; that is, one that progresses logically from lesser to greater independence. Such an ordinal measure would enable us to chart the movement of youth over time as they increased, maintained, or decreased their general independence. Because of the intent to track youth longitudinally, our final criterion for developing a measure of independence was that it use data available at both time points of the NLTS, when youth had been out of school less than 2 years and again when they had been out of school 3 to 5 years. Hence, no data available only at the second time point (e.g., whether youth had children) could be used in defining the categories of the measure.

Life Profiles of Out-of-School Youth with Disabilities

We refer to the product of our effort to develop a general measure of independence as "life profiles," snapshots of the interrelated statuses of youth in the engagement, residential, and social domains. The life profiles that have emerged from our work do not result from factor analyses, principal component analyses, or other statistical techniques that find empirical, data-based relationships among multiple measures. Instead, we have defined *a priori* clusters of experiences of youth that we have observed to "hang together" both in the world and in our data. We have held up an image of a particular kind of life path or experience, defined a profile that captures that cluster of experiences, and applied the data to that profile. Through exploratory analyses, we then looked at who fit and who was left out of particular profiles. An interactive process of defining profiles, fitting data, refining definitions, and conducting further analyses has produced a set of six profiles of youth with disabilities that capture a continuum of independence in the three domains of interest. These six profiles encompass the kinds of experiences described below and in Table 7-1 (see Appendix C for more details of the construction of profiles). Figure 7-1 is a graphic depiction of each profile.

Profile 1 *Youth were fully independent in all three domains.* This profile describes youth who were productively engaged full time outside the home, were living independently, and were socially active. In the engagement domain, Table 7-1 indicates that the vast majority of youth who fit profile 1 (86%) were employed in competitive, full-time jobs when they had been out of secondary school 3 to 5 years. Another 6% worked competitively part time, in combination with either job training or postsecondary education. In this profile, 12% of youth were postsecondary students, and 8% were involved in job training, generally part time. To have this profile, youth must have been living independently; Table 7-1 indicates that the majority of youth (74%) lived with a spouse or roommate, consistent with the high rate of marriage or living with persons of the opposite sex among youth who fit this profile (44%). Almost 4 in 10 youth whose experiences corresponded to this most independent profile were parents (39%). Profile 1 incorporated 20% of youth with disabilities who had been out of secondary school 3 to 5 years.

Profile 2 *Youth were fully independent in two domains.* For example, youth were working competitively full time or were full-time students and were involved socially, but lived at home with parents (and thus were not independent in the residential domain). Alternatively, youth were married (socially independent) and lived with their spouses (residentially independent), but were not working or working less than full time (not fully engaged outside the home). Youth also could have been independent in the engagement and residential domains, but socially isolated.

Table 7-1 indicates that the two domains in which youth who fit this profile were most likely to be functioning independently were the social domain (virtually none were socially isolated) and the domain of productive engagement outside the home. In the latter area, 55% of youth whose experiences matched this profile were employed in full-time competitive jobs, a significantly lower percentage compared with profile 1 (86%; p<.001). However, more than twice as many youth who fit profile 2 worked competitively part time than was true of profile 1 (14% vs. 6%; p<.10). Among profile 2 youth, 8% were postsecondary students, and 12% were involved in job training. Many students and trainees combined these roles with part-time work, thereby earning a designation as fully productively engaged outside the home. Significantly fewer youth who fit this profile were living independently (38%) than was true for profile 1, a finding consistent with their lower marriage rate relative to profile 1 (20% vs. 44%; p<.001) and their lower rate of parenthood (25% vs. 39%; p<.05). This profile included 43% of youth with disabilities who had been out of secondary school 3 to 5 years.

	Independent in engagement	Independent residentially	Independent socially	Partially independent in engagement[a]	Active in engagement with support[a]	Active residentially with support*	Institutionalized
Profile 1	★	★	★				
Profile 2	★	★					
	★		★				
		★	★				
Profile 3			▨	★			
		★	▨				
Profile 4			▨		★		
			▨			★	
Profile 5			▨				
Profile 6			▨				★

★ Characteristic necessary for inclusion into profile

▨ Characteristic may be present, but not necessary for inclusion into profile

[a] Partial independence includes productive engagement without support that is not full time, such as a part-time competitive job or schooling. Active with support includes such activities as sheltered employment, which are not considered independent.

FIGURE 7-1 PROFILE DEFINITIONS

Table 7-1

ACTIVITIES OF YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS

Youth Activities	Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active	Profile 6: Institution-alized
Engagement Domain						
Percentage of youth employed:						
Not at all	6.9 (3.0)	26.6 (4.1)	11.3 (5.9)	28.0 (7.1)	100.0 --	100.0 --
As volunteer only	1.4 (1.4)	2.1 (1.3)	1.0 (1.9)	10.9 (4.9)	.0 --	.0 --
In sheltered or supported work	.1 (.3)	2.0 (1.3)	.4 (1.2)	55.8 (7.8)	.0 --	.0 --
In part-time competitive work	6.1 (2.9)	14.2 (3.3)	72.6 (8.4)	5.3 (3.5)	.0 --	.0 --
In full-time competitive work	85.5 (4.2)	55.1 (4.6)	14.7 (6.7)	.0 --	.0 --	.0 --
Percentage of youth who were:						
Enrolled in a post-secondary school	12.4 (4.0)	7.9 (2.5)	1.3 (2.2)	1.6 (2.0)	.0 --	.0 --
Involved in job skills training	7.8 (3.3)	12.0 (3.1)	7.7 (5.2)	32.7 (7.6)	.0 --	.0 --

Table 7-1 (Concluded)

Youth Activities	Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active	Profile 6: Institution-alized
Residential Domain						
Percentage of youth living:						
Alone	19.9 (4.7)	7.1 (2.4)	4.5 (3.9)	.0 --	.0 --	.0 --
With spouse/roommate	73.8 (5.2)	29.1 (4.2)	7.9 (5.1)	.0 --	.0 --	.0 --
In a college dormitory/military housin	6.7 (3.0)	1.9 (1.3)	.2 (.9)	.0 --	.0 --	.0 --
With parent(s)/other family members	.0 --	59.0 (4.8)	85.5 (6.2)	80.4 (6.1)	97.4 (2.0)	.0 --
In a supervised group home	.0 --	1.3 (1.3)	1.8 (1.8)	18.5 (6.1)	.0 --	.0 --
In a hospital/facility for those with disabilities/correctional facility	.0 --	.0 --	1 (.5)	.0 --	.0 --	99.3 (2.9)
In another setting	.0 --	1.8 (1.2)	.1 (.2)	1.1 (1.7)	2.6 (2.2)	.0 --
Social Domain						
Percentage of youth who were:						
Socially isolated[a]	.0 --	1.3 (1.1)	22.7 (8.4)	21.1 (6.5)	8.9 (4.4)	--
Married/living with someone of the opposite sex	44.0 (5.9)	19.5 (3.7)	1.5 (2.3)	2.2 (2.3)	11.1 (4.8)	.0 (.0)
Parents	39.2 (5.8)	24.6 (4.0)	13.2 (6.4)	1.9 (2.1)	18.8 (5.9)	11.8 (11.1)
n	349	657	139	239	285	37

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[a] Saw friends less often than weekly, did not belong to social/community groups, and was not married or engaged.

Standard errors are in parentheses.

Profile 3 *Youth were at least partially independent in the engagement domain or were living independently, but were not independent in more than one domain.* For example, youth might have achieved at least partial independence in work or schooling (e.g., were competitively employed part time), but did not live independently and were socially isolated. Alternatively, youth might have been living independently but were not engaged in competitive work or schooling and were socially isolated.

Table 7-1 indicates that this profile includes primarily youth who were working part time in competitive jobs (73%) and were living at home with parents (86%). More than 1 in 5 youth whose experiences matched this profile (23%) were socially isolated—not belonging to groups, seeing friends less often than weekly, and not being married or engaged—a higher rate of social isolation than the more independent youth who fit profiles 1 or 2 ($p<.05$). Only 1% were postsecondary students, and 8% were involved in job training programs. In this profile, 13% of youth were parents and virtually all of those parents were single. One in 12 youth with disabilities (8%) who had been out of secondary school 3 to 5 years had this profile.

Profile 4 *Youth were active in the engagement or residential domain, but not independent in either of them.* This profile includes youth who had volunteer, work-study, sheltered, or supported jobs, and who did not live independently. Also included are youth who lived in supervised group homes who did not have competitive jobs. They may or may not have been socially isolated.

As depicted in Table 7-1, 56% of youth who fit this profile had found sheltered or supported work and 11% had volunteer jobs that took them into the community. Almost one-third of youth whose experiences corresponded to this profile (33%) were engaged in job training programs. Although most youth lived with family members (80%), 18% were living in supervised group homes. One in 5 youth (21%) were socially isolated; virtually none were married (2%) or parents (2%). Fewer than 1 in 10 youth (9%) had this profile 3 to 5 years after leaving secondary school.

Profile 5 *Youth were not active in either the engagement or residential domain, but were not living in an institution.* These youth were not involved in any work- or education-related activities outside the home, as shown in Table 7-1, and generally lived with parents or other adult family members (97%). Despite their lack of involvement in work or school or in living situations outside their immediate families, only 9% of youth were socially isolated. Three to 5 years after leaving secondary school, 17% of youth had this profile.

Profile 6 *Youth were living in institutions.* These youth lived in hospitals, residential facilities for those with disabilities, or correctional facilities. By definition, they were uninvolved in the engagement domain. Table 7-1 indicates that 12% of institutionalized youth were parents. This profile fit 3% of youth with disabilities 3 to 5 years after secondary school.

This discussion shows the range of activities in which youth with each profile were involved. The status of youth on these measures was the basis for assignment to profiles. However, the nature of the experiences captured by the profiles is further illuminated if we understand better how youth with these profiles spent their days. A more subjective reporting of the activities that claimed youths' time is a particularly important addition to the analysis for youth whose experiences fit the less independent profiles—youth who did not spend a majority of their time working, going to school, or otherwise engaging in productive activities outside the home. Table 7-2 depicts responses to a 1990 interview question that asked parents and/or youth to report how the youth spent "most of his/her time in the past few weeks" at the time they had been out of secondary school 3 to 5 years.*

Logically, youth with more independent profiles were more likely to have reported spending most of their time recently in productive activities outside the home, such as working for pay, in line with the requirement for full-time productive engagement for the more independent profiles. For example, 83% of youth with profile 1 (independent in three domains) were reported to have spent most of their time working, compared with 62% of youth with profile 2 (those independent in two domains; p<.01), and 39% of youth with profile 4 (youth who were active, but not independent; p<.001). Similarly, youth with the greatest independence (profile 1) were significantly more likely than those with profile 3 (at least partially independent in one domain) to have spent most of their time recently going to school or a training program (16% vs. 2%; p<.01).

However, similar percentages of youth across the profiles were involved in productive activities within the home; the percentage of youth spending most of their time working around the house or farm and/or raising children ranged from 12% of those who fit profile 4 (active, not independent) to 27% of those with profile 5 (not active), not a statistically significant difference. This finding is somewhat contrary to expectations, given the significantly higher rate of marriage and parenthood among the more independent youth who fit profiles 1 and 2, as was shown in Table 7-1. Apparently, many of the more independent youth combined their roles as spouses and parents with forms of productive engagement outside the home, which, according to their report, commanded a majority of their time.

Youth who fit different profiles were similar in the frequency of many other activities; for example, the percentage of youth spending most of their time attending recreation events or playing sports ranged from 7% to 15%. An exception concerns the inactive youth who fit profile 5. Although these youth were somewhat more likely than others to have spent most of their time recently looking for work (17% vs. 4% for profile 4, for example; p<.10), they also were more likely than any other youth to have spent most of their time "listening to music," "watching TV," "hanging out," or "doing nothing" (45% of youth who fit profile 5, compared with 22% for profile 4 and 21% for profile 3, for example; p<.05). They also were somewhat

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[*] This item was not asked about youth who were reported to be institutionalized because parents may not have known about activities of youth in institutional environments.

Table 7-2

HOW YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS SPENT MOST OF THEIR TIME RECENTLY[a]

Activities Taking Most of Youths' Time	Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active
Percentage of youth reported to have spent most of their time in the preceding few weeks:					
Working for pay	83.1 (4.5)	62.1 (4.6)	67.3 (9.1)	38.9 (7.7)	3.3 (2.8)
Going to school/in training program	16.2 (4.4)	10.6 (2.9)	2.2 (2.9)	14.4 (5.5)	.0 --
Raising children/keeping house/ working around the house or farm	13.3 (4.0)	16.1 (4.0)	19.3 (7.5)	11.6 (5.0)	26.9 (7.0)
Looking for work	.3 (.6)	9.0 (2.7)	3.6 (3.6)	4.2 (3.2)	17.3 (5.9)
Doing volunteer work	1.7 (1.5)	1.0 (1.0)	3.2 (3.4)	1.7 (2.0)	.6 (1.2)
In organized program (not school/training)	.1 (.2)	.1 (.3)	1.0 (1.9)	10.0 (4.7)	2.2 (2.3)
In hospital/institution/correctional facility[b]	.1 (.4)	.7 (.8)	3.8 (3.7)	.3 (.9)	1.3 (1.9)

Table 7-2 (concluded)

Activities Taking Most of Youths' Time	Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active
Going to recreation events/places/ playing sports	7.4 (3.2)	8.6 (2.7)	14.9 (6.9)	10.2 (4.7)	13.1 (5.3)
Doing hobbies/crafts/creative activities	3.4 (2.1)	3.1 (1.6)	4.6 (4.1)	2.4 (2.4)	5.9 (3.7)
Interacting with friends/family members	2.4 (1.8)	11.6 (3.1)	9.5 (5.7)	6.0 (3.7)	25.3 (6.7)
Listening to music/watching TV/ hanging out/doing nothing	8.8 (3.4)	13.6 (3.3)	20.7 (7.8)	22.2 (6.7)	45.3 (8.0)
n	672	140	256	308	

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[a] Responses indicate how parents/youth reported youth spent "most of his/her time in the past few weeks."

[b] This item was not asked of respondents concerning youth in institutions (profile 6).

Standard errors are in parentheses.

more likely than others to have spent most of their time socializing with friends or family members (25% vs. 12% for profile 2 and 10% for profile 3, for example; p<.10). It is unknown whether the emphasis on social or passive modes of spending time among this group of youth was a matter of choice, or whether these were among the only activities open to them because of their disabilities. Regardless of the reason, these modes of spending time are unlikely to support youth in acquiring greater independence in the future.

An additional perspective on the kinds of experiences captured by the profiles is provided in Table 7-3, which depicts the extent to which youth with each profile were reported by parents to be receiving services of various kinds. As was true of our consideration of how youth spent their time, this focus on services may be particularly important in understanding the experiences of less independent youth. Involvement in services or therapies may be a dominant experience in the lives of some youth. To the extent that services can help youth achieve their potential for independence, involvement with them also may contain the seeds of movement toward greater independence in the future.

Table 7-3 indicates that generally only small minorities of youth who fit any of the profiles were receiving the services investigated by the NLTS. For example, no more than 6% of youth whose experiences corresponded to any of the profiles were receiving speech or language therapy; no more than 15% were receiving help from a tutor, reader, or interpreter; and no more than about one-third were reported to be receiving personal counseling or therapy.

Exceptions to the relatively low level of service receipt were the 52% of youth who fit profile 4 who were reported to be receiving vocational assistance (e.g., job counseling, job placement, skills training) and the 40% of youth with that profile who were reported to be receiving occupational therapy or life skills training.

Further, there seems to be little relationship between levels of independence captured by the profiles and the extent to which youth were receiving services. For example, inactive youth who fit profile 5 were no more likely than the most independent youth who fit profile 1 to be receiving services that might support increased independence. The exception to this pattern is that services in general were somewhat more common among youth who fit profiles 4 (active, but not independent) and 6 (institutionalized). The institutions, agencies, or programs with which these youth were connected (e.g., group homes or supported employment programs in the case of profile 4), may have provided them with these kinds of services.

These analyses have attempted to flesh out the experiences of youth with the six life profiles we have developed in our effort to illuminate a broad picture of independence after secondary school. With this understanding of the experiences encompassed in each profile, we now turn to an examination of the extent to which youth exhibited these life profiles when they had been out of secondary school less than 2 years and then 3 years later. We also consider the movement between profiles youth experienced over that time period.

Table 7-3

SERVICES REPORTED RECEIVED BY YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS

Services Reported Received by Youth	Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active	Profile 6: Institutionalized
Percentage of youth whose parents reported they were receiving:						
Vocational assistance (e.g., job counseling, placement)	9.9 (3.7)	13.4 (3.2)	9.3 (5.5)	52.1 (8.1)	7.8 (4.1)	9.8 (11.1)
Occupational therapy/life skills training	.9 (1.2)	6.8 (2.4)	5.2 (4.2)	39.6 (8.0)	3.7 (2.9)	22.2 (15.2)
Tutor/reader/interpreter	4.5 (2.5)	7.4 (2.5)	5.5 (4.3)	14.4 (5.8)	8.9 (4.3)	11.5 (11.1)
Speech/language therapy	.8 (1.1)	1.7 (1.2)	1.0 (1.9)	5.3 (3.6)	.9 (1.5)	6.4 (8.5)
Personal counseling/therapy	2.3 (1.8)	7.4 (2.5)	8.3 (5.3)	20.9 (6.6)	2.9 (2.6)	32.3 (16.8)
Physical therapy/mobility training[a]	1.5 (3.1)	6.3 (3.5)	4.2 (4.8)	8.4 (4.9)	10.4 (4.9)	--
n	346	655	141	248	301	33

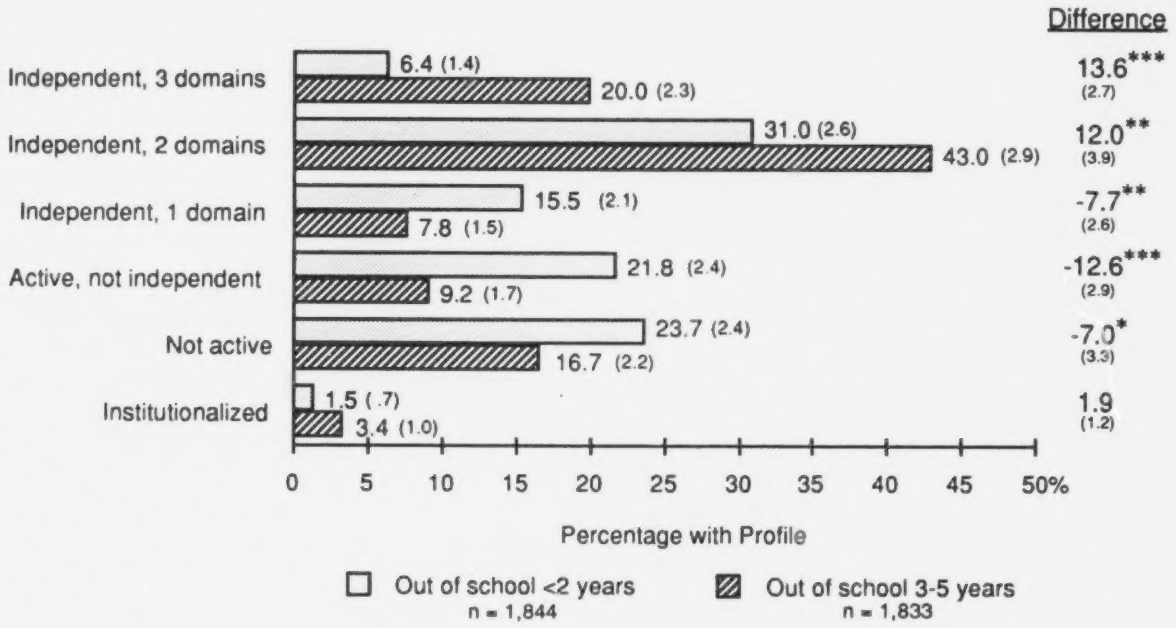
---

[a] The items related to physical therapy were not asked of parents/youth if youth had only learning disabilities, speech impairments, or emotional disturbances; n=181, 415, 99, 226, 244, 26 for the six profiles.

Standard errors are in parentheses.

Trends in the Distribution of Life Profiles

Figure 7-2 demonstrates significant shifts in the distribution of youth among the six profiles over the 3-year period encompassed by the NLTS. Overall, there were significant increases in the percentages of youth with more independent profiles and corresponding decreases in the less independent profiles. The proportion of youth who fit profile 1 (most independent) increased 14 percentage points over the time period (p<.001). By the time youth had been out of secondary school 3 to 5 years, 20% of youth were fully independent in the engagement, residential, and social domains, compared with only 6% of youth when they had been out of school less than 2 years.



Standard errors are in parentheses.

* p < .05, ** p < .01, *** p < .001

FIGURE 7-2 LIFE PROFILES OF YOUTH WITH DISABILITIES

Similarly, an increase of 12 percentage points was demonstrated for profile 2 (independent in two domains; p<.01). Profile 2 illustrated the most common cluster of experiences; 3 to 5 years after leaving secondary school, 43% of youth were independent in two of the three domains, compared with 31% 3 years earlier.

Significant decreases in profiles 3 (independent in either the engagement or residential domain), 4 (active, but not independent), and 5 (not active) were noted, ranging from 7 percentage points for profile 5 (p<.05) to 13 percentage points for profile 4 (p<.001). Only the percentage of youth who were institutionalized (profile 6) was relatively stable over time (2% and 3%).

Trends in Life Profiles by Disability Category

The marked trend toward profiles characterized by greater independence was noted for youth in most disability categories, as shown in Table 7-4. For example, the percentage of youth in profile 1, the most independent youth, increased significantly for all disability categories except those classified as multiply handicapped or deaf/blind. Significant increases in the independence characterized by profile 1 ranged from 23 percentage points for youth with speech impairments (from 5% to 28%; p<.01) to almost 7 percentage points for youth with mental retardation (from 1% to 8%; p<.05). Significant increases in independence in two domains (profile 2) also were noted for youth with learning disabilities (12 percentage points, p<.05), serious emotional disturbances (15 percentage points, p<.10), mental retardation (12 percentage points, p<.05), and orthopedic impairments (25 percentage points, p<.01).

These gains in the profiles distinguishing more independent youth were accompanied by declines in less independent profiles. For example, there were declines in all disability categories in the percentage of youth in profile 4, youth who were active outside the home but not independent in either the engagement or residential domain. Significant declines ranged from 12 percentage points for youth classified as mentally retarded (p<.05) to 19 percentage points for those who were hard of hearing (p<.01). Consistent but smaller declines also were noted for youth who were at least partially independent in one domain (profile 3) and for inactive youth (profile 5). The percentage of youth living in institutions did not change significantly.

Profile 2 (independent in two domains) was the predominant pattern of experience 3 to 5 years after secondary school for youth in all disability categories except those classified as multiply handicapped or deaf/blind. For example, virtually half of youth classified as learning disabled or hard of hearing were functioning independently in two domains by the time they had been out of secondary school 3 to 5 years, as were more than 4 of 10 youth classified as seriously emotionally disturbed (46%), deaf (42%) or other health impaired (43%). About one-

Table 7-4

LIFE PROFILES OF YOUTH WITH DISABILITIES BY DISABILITY CATEGORY

(Percent)

Life Profiles	All Conditions	Primary Disability Category										
		Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Orthopedically Impaired	Other Health Impaired	Multiply Handicapped	Deaf/ Blind
Less than 2 years after secondary school, youth were:												
Independent, 3 domains	6.4	10.2	2.9	4.8	1.2	7.5	7.7	8.1	3.3	.0	.0	3.0
	(1.4)	(2.8)	(1.9)	(3.1)	(1.1)	(3.4)	(4.0)	(2.8)	(2.7)	(.0)	(.0)	(4.0)
Independent, 2 domains	31.0	37.7	31.0	33.5	18.2	30.5	40.4	36.1	12.1	39.3	14.2	12.2
	(2.6)	(4.4)	(5.3)	(6.8)	(4.0)	(5.9)	(7.3)	(5.0)	(4.8)	(9.5)	(6.2)	(7.7)
Independent, 1 domain	15.5	15.8	21.5	18.0	13.1	8.0	13.5	10.3	12.4	11.8	3.9	9.6
	(2.1)	(3.3)	(4.7)	(5.5)	(3.5)	(3.5)	(5.1)	(3.2)	(4.9)	(6.3)	(3.4)	(6.9)
Active, not independent	21.8	16.7	15.2	20.4	34.5	30.9	21.8	22.2	26.5	22.4	35.2	39.1
	(2.4)	(3.4)	(4.1)	(5.8)	(4.9)	(5.9)	(6.1)	(4.3)	(6.5)	(8.1)	(8.5)	(11.4)
Not active	23.7	19.6	24.7	21.8	30.5	22.5	16.2	22.7	43.8	26.5	30.3	27.5
	(2.4)	(3.6)	(5.0)	(6.0)	(4.7)	(5.9)	(5.5)	(4.4)	(7.3)	(8.6)	(8.2)	(10.5)
Institutionalized	1.5	.0	4.8	1.4	2.5	.6	.4	.7	1.9	.0	16.4	8.6
	(.7)	(.0)	(2.5)	(1.7)	(1.6)	(1.0)	(1.0)	(.8)	(2.0)	(.0)	(6.6)	(6.6)
n	1,844	327	207	127	258	166	143	243	157	79	104	33
3 to 5 years after secondary school, youth were:												
Independent, 3 domains	20.0	26.8	16.2	27.6	7.7	28.5	20.1	22.8	14.7	16.5	5.1	5.8
	(2.3)	(4.1)	(4.3)	(6.4)	(2.8)	(5.6)	(6.1)	(4.4)	(5.2)	(7.0)	(4.0)	(5.5)
Independent, 2 domains	43.0	49.9	45.7	35.2	30.1	35.5	48.9	42.5	37.1	43.8	18.9	13.2
	(2.9)	(4.6)	(5.8)	(6.9)	(4.7)	(5.9)	(7.7)	(5.1)	(7.2)	(9.3)	(7.1)	(8.0)
Independent, 1 domain	7.8	7.2	6.7	15.8	9.0	5.8	6.3	10.3	3.1	8.1	2.1	8.7
	(1.5)	(2.4)	(2.9)	(5.2)	(3.0)	(2.9)	(3.7)	(3.2)	(2.6)	(5.1)	(2.6)	(6.7)
Active, not independent	9.2	2.8	7.2	4.2	22.0	11.6	7.7	5.2	15.8	14.5	33.1	33.2
	(1.7)	(1.5)	(3.0)	(2.9)	(4.3)	(4.0)	(4.1)	(2.3)	(5.4)	(6.6)	(8.5)	(11.1)
Not active	16.7	11.6	14.0	14.0	27.3	18.0	17.0	16.3	28.3	17.0	29.5	31.8
	(2.2)	(2.9)	(4.0)	(5.0)	(4.6)	(4.8)	(5.7)	(3.8)	(6.7)	(7.0)	(8.2)	(11.0)
Institutionalized	3.4	1.7	10.3	3.1	3.9	.6	.0	2.7	1.1	.1	11.3	7.3
	(1.0)	(1.2)	(3.5)	(2.5)	(2.0)	(1.0)	(.0)	(1.7)	(1.5)	(.4)	(5.7)	(6.2)
n	1,833	325	190	127	263	172	140	244	156	84	100	32

Table 7-4 (Concluded)

Life Profiles	All Conditions	Primary Disability Category											
		Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired	Other Health Impaired	Multiply Handi-capped	Deaf/ Blind
Difference between <2 and 3-5 years after high school in rate of social interactions:												
Independent, 3 domains	13.6***	16.6***	13.3**	22.8**	6.5*	21.0**	12.4†	14.7**	11.4*	16.5*	5.1	2.8
	(2.7)	(5.0)	(4.7)	(7.1)	(3.0)	(6.6)	(7.3)	(5.2)	(5.9)	(7.0)	(4.0)	(6.8)
Independent, 2 domains	12.0**	12.2*	14.7†	1.7	11.9*	5.0	8.5	6.4	25.0**	4.5	4.7	1.0
	(3.9)	(6.4)	(7.9)	(9.7)	(6.2)	(8.3)	(10.6)	(7.1)	(8.7)	(13.3)	(9.4)	(11.1)
Independent, 1 domain	-7.7	-8.6*	-14.8**	-2.2	-4.1	-2.2	-7.2	.0	-9.3†	-3.7	-1.8	-.9
	(2.6)	(4.1)	(5.5)	(7.6)	(4.6)	(4.5)	(6.3)	(4.5)	(5.5)	(8.1)	(4.3)	(9.6)
Active, not independent	-12.6***	-13.9***	-8.0	-16.2*	-12.5*	-19.3**	-14.1*	-17.0***	-10.7	-7.9	-2.1	-5.9
	(2.9)	(3.7)	(5.1)	(6.5)	(6.5)	(7.1)	(7.3)	(4.9)	(8.5)	(10.4)	(12.0)	(15.9)
Not active	-7.0*	-8.0†	-10.7†	-7.8	-3.2	-4.5	0.8	-6.4	-15.5	-9.5	-.8	4.3
	(3.3)	(4.6)	(6.4)	(7.8)	(6.6)	(7.6)	(7.9)	(5.8)	(9.9)	(11.1)	(11.6)	(15.2)
Institutionalized	1.9	1.7	5.5	1.7	1.4	.0	-.4	2.0	-.8	.1	-5.1	-1.3
	(1.2)	(1.2)	(4.3)	(3.0)	(2.6)	(1.4)	(1.0)	(1.9)	(2.5)	(.4)	(8.7)	(9.1)

Standard errors are in parentheses.

† p<.10, * p<.05, ** p<.01, *** p<.001.

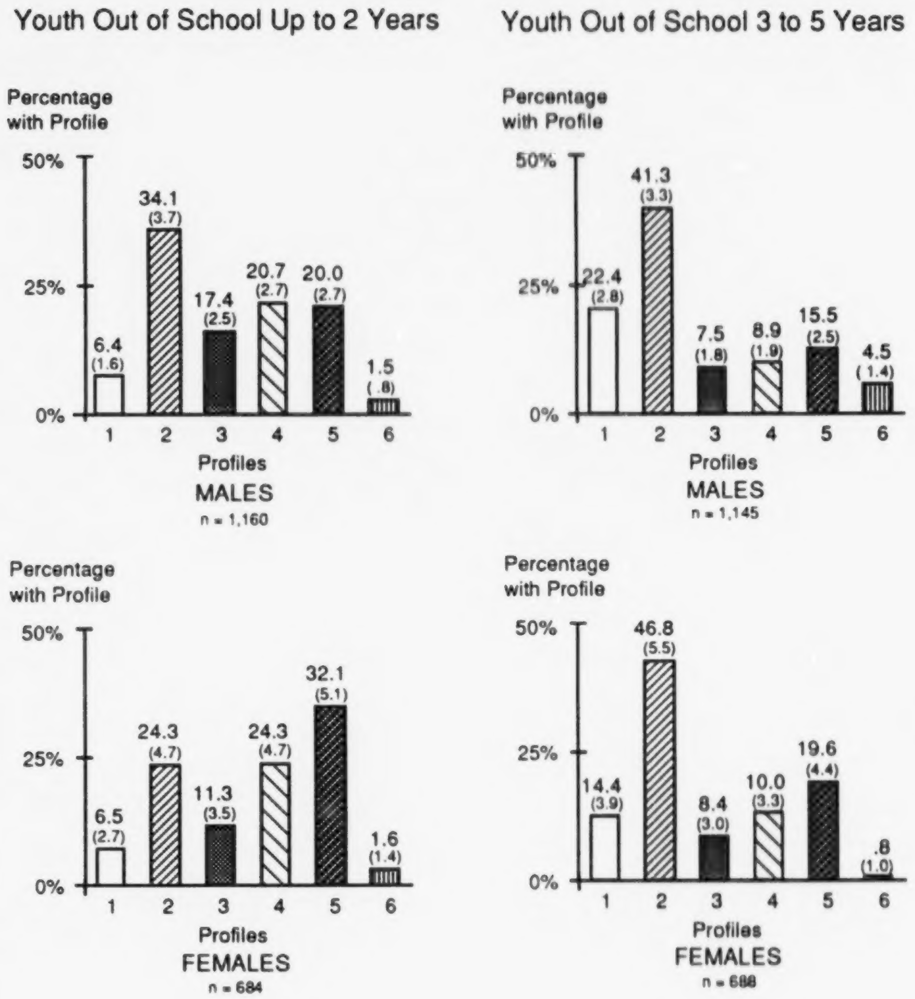
third of youth with mental retardation or speech, visual, or orthopedic impairments fit profile 2. Among those with multiple handicaps, only 19% fit profile 2, as did 13% of youth who were deaf/blind.

Despite the predominance of profile 2 in most disability categories, there were significant differences in the extent to which youth in various disability categories fit other profiles. Regarding the most independent youth, profile 1, more than one-fourth of youth with learning disabilities (27%) or speech or visual impairments (28%) had achieved this pervasive degree of independence 3 to 5 years after secondary school. In contrast, only about 1 in 6 youth classified as seriously emotionally disturbed (16%), orthopedically impaired (15%), or other health impaired (16%) fit profile 1, as did only 5% and 6% of youth classified as multiply handicapped or deaf/blind, respectively. Profiles 4 (active, not independent) and 5 (not active) dominated the latter two disability categories.

Profile 6, youth living in institutions, was fairly rare for youth in most disability categories. However, 7% of youth who were deaf/blind, 10% of those with serious emotional disturbances, and 11% of those with multiple impairments had this profile 3 to 5 years after secondary school. This rate was significantly higher for youth with emotional disturbances (10%), for example, than for those classified as learning disabled (2%, $p<.05$) or deaf (3%, $p<.05$). Despite similar percentages of youth who fit profile 6 among those with serious emotional disturbances and those with multiple impairments, the types of facilities in which they lived differed. The majority of youth with profile 6 who were classified as seriously emotionally disturbed were living in correctional facilities, whereas the majority of those with multiple impairments were in hospitals or facilities for those with disabilities.

Trends in Life Profiles by Youth Characteristics

Gender. Increases in independence also were noted for youth of both genders, as shown in Figure 7-3. For example, the percentage of youth with the greatest degree of independence, profile 1, increased significantly for both genders, although the 16 percentage point increase for young men with disabilities ($p<.001$) was twice as large as the 8 percentage point increase for women ($p<.10$) over the 3-year period. However, young women also experienced a significant gain in the percentage with profile 2, women active in two domains (22 percentage points, $p<.001$). These gains accompanied significant declines in less independent profiles (profile 3 for men, profile 4 for both genders, and profile 5 for women).



Difference

Profile		
1	16.0***	(3.2)
2	7.2*	(4.6)
3	-9.9**	(3.1)
4	-11.8***	(3.3)
5	-4.5	(3.7)
6	3.0	(1.6)
1	7.9†	(4.7)
2	22.5***	(7.2)
3	-2.9	(4.6)
4	-14.3*	(5.7)
5	-12.5†	(6.7)
6	-.8	(1.7)

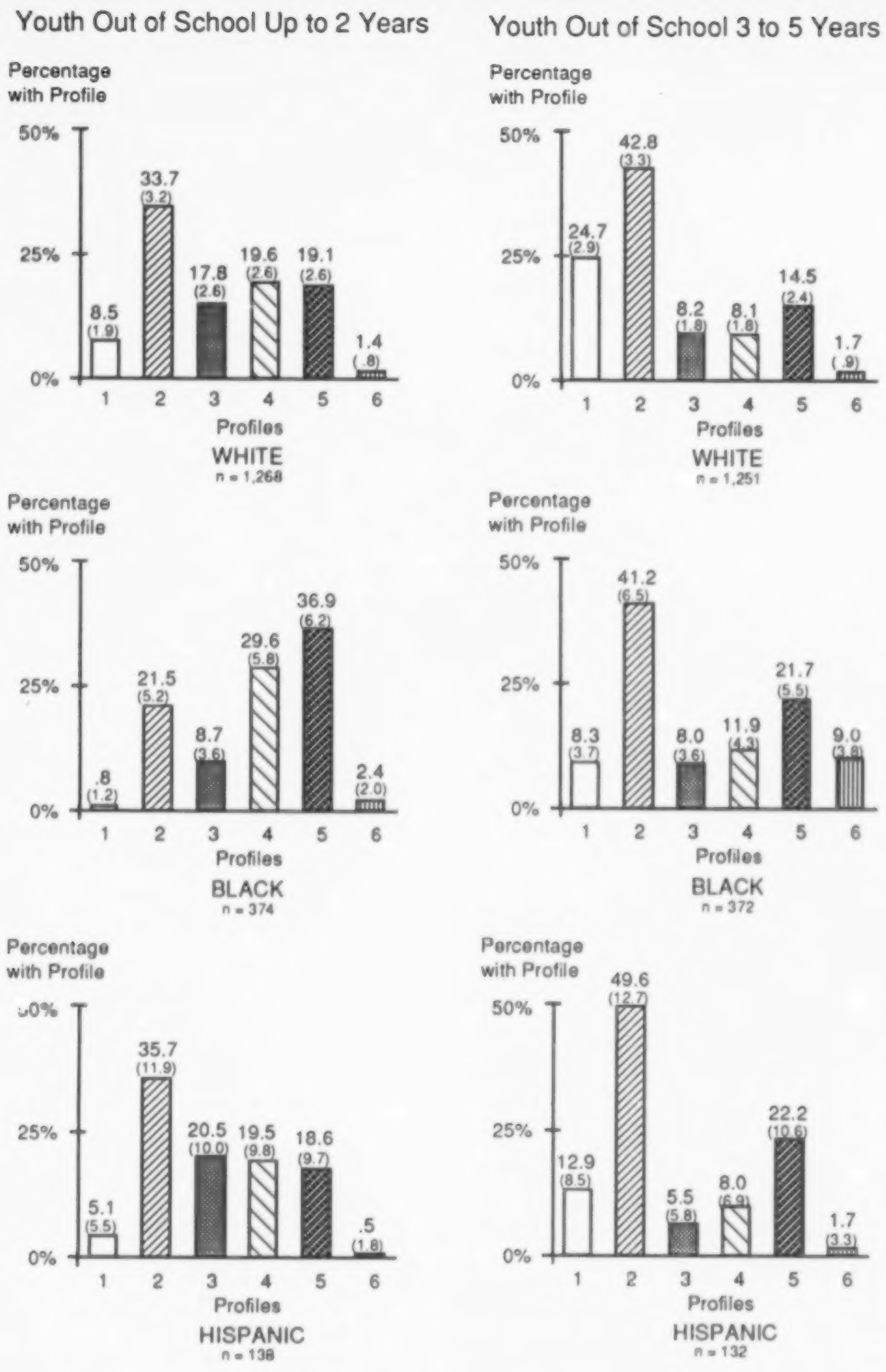
Standard errors are in parentheses.
† p < .10, * p < .05, ** p < .01, *** p < .001

FIGURE 7-3 GENDER DIFFERENCES IN LIFE PROFILE CHANGES OF YOUTH WITH DISABILITIES

With these gains, women began somewhat to equalize their levels of independence over the time period compared with men, as indicated by the greater similarity in the distributions of profiles of men and women when they had been out of school 3 to 5 years. For example, in the early years after high school, significantly fewer young women than men were independent in two domains (profile 2—24% vs. 34%; p<.10), and significantly more women were not active (profile 5—32% vs. 20%, p<.05). Three to 5 years after secondary school, the percentages of men and women with these profiles were not different. However, young women still were significantly less likely than men to have achieved the highest level of independence characterized by profile 1 (14% vs. 22%; p<.10), largely because of their lower rates of full-time employment, as reported in Chapter 4. In addition, there was a significantly higher percentage of young men living in institutions (profile 6, 4% vs. 1%, p<.05), due primarily to their higher rates of arrest and incarceration (see Chapter 6).

Ethnic background. Figure 7-4 indicates that both white and black youth demonstrated significant gains in the more independent profiles, 1 and 2. However, for white youth, the gain in profile 1 (16 percentage points, p<.001) was larger than for profile 2 (9 percentage points, p<.05). For black youth, the increase was larger for profile 2 (20 percentage points, p<.05) than profile 1 (8 percentage points, p<.10). Both groups experienced significant declines in profile 4 (youth active but not independent—12 percentage points for whites and 18 percentage points for blacks, p<.001 and .05). Also, there was a reduction in the percentage of inactive black youth (profile 5—15 percentage points, p<.10). Changes in the pattern of profiles for Hispanic youth were not statistically significant because of the small number of cases involved.

A greater similarity in distributions of profiles for black and white youth when they had been out of school 3 to 5 years compared with less than 2 years suggests that black youth began to equalize somewhat their distribution among profiles over the time period relative to white youth. For example, in the first 2 years after secondary school, blacks were significantly less likely than whites to have either profile 1 (1% vs. 8%, p<.01) or profile 2 (22% vs. 34%, p<.05) and were significantly more likely to be inactive, fitting profile 5 (37% vs. 19%, p<.10). However, with gains over time, the percentages of white and black youth with profiles 2 and 5 were not significantly different 3 to 5 years after secondary school. Yet, black youth still were significantly less likely than whites to exhibit the most independent profile (8% vs. 25%, p<.001) and were significantly more likely to be living in institutions, profile 6 (9% vs. 2%, p<.10), generally correctional facilities. The distributions of profiles for Hispanic youth were quite similar to whose of whites at both points in time.



Difference

Profile		
1	16.2***	(3.5)
2	9.1*	(4.6)
3	-9.6**	(3.2)
4	-11.5***	(3.2)
5	-4.6	(3.5)
6	3.0	(1.2)
1	7.5†	(3.9)
2	19.7*	(8.3)
3	-.7	(5.1)
4	-17.7*	(7.2)
5	-15.2†	(8.3)
6	6.6	(4.3)
1	7.8	(10.1)
2	13.9	(17.4)
3	-15.0	(11.6)
4	-11.5	(12.0)
5	3.6	(14.4)
6	1.2	(3.8)

Standard errors are in parentheses.
† p < .10, * p < .05, ** p < .01, *** p < .001

FIGURE 7-4 LIFE PROFILES OF YOUTH WITH DISABILITIES, BY ETHNIC BACKGROUND

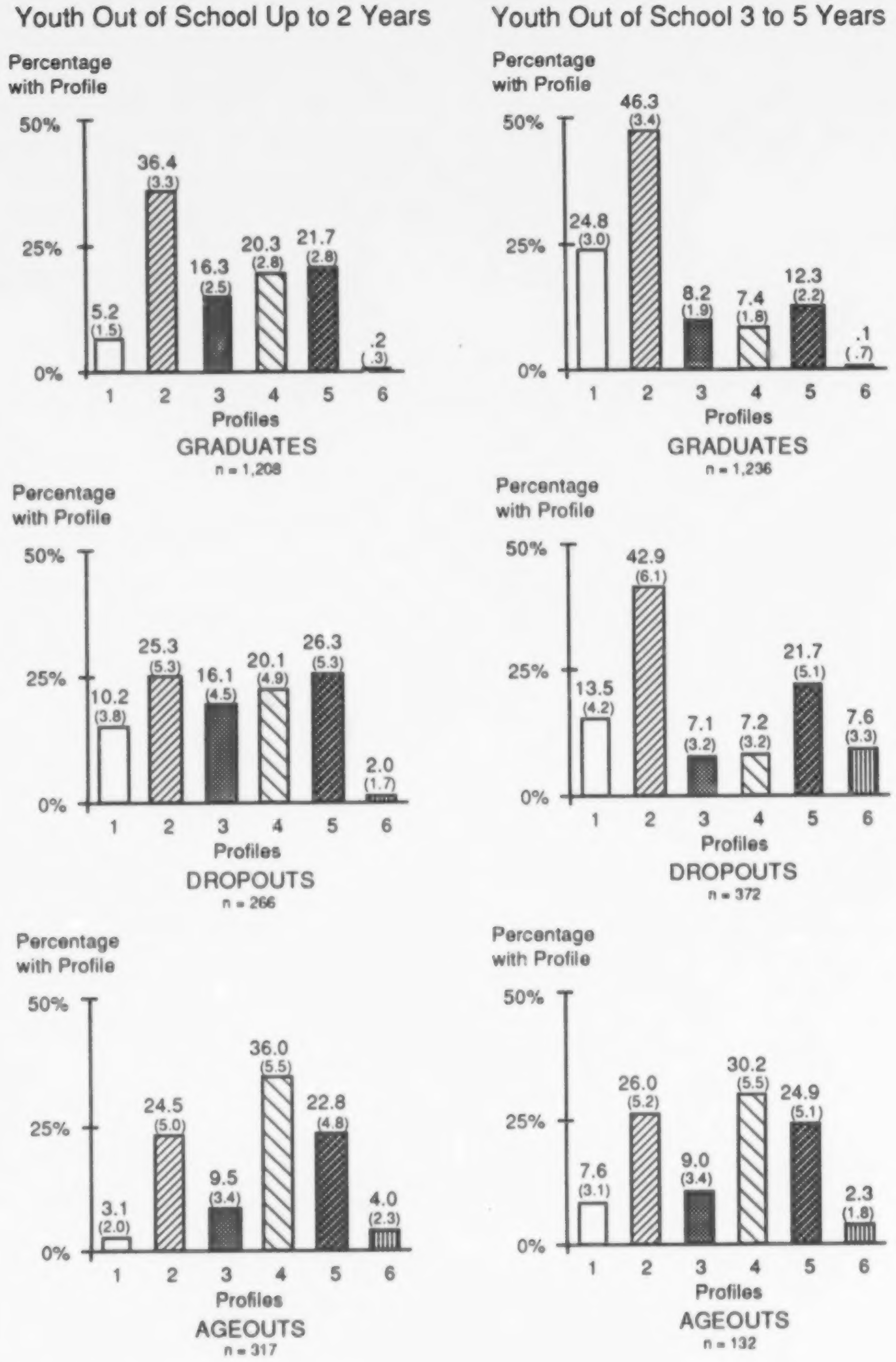
Secondary school completion. Profile distributions for youth who varied in their mode of secondary school are depicted in Figure 7-5. Graduates experienced large and significant gains in the most independent profiles over the 3-year period, with an increase of 20 percentage points in profile 1 (from 5% to 25%; p<.001) and 10 percentage points in profile 2 (from 36% to 46%; p<.05). Less independent profiles, 3 through 5, had corresponding significant declines, ranging from 8 percentage points for profile 3 (p<.01) to 13 percentage points for profile 4 (p<.001). The proportion of graduates living in institutions was unchanged.

Although dropouts had patterns of decline similar to those of graduates in the less independent profiles 3 through 5 (e.g., 9 percentage points for profile 3, p<.10, and 13 percentage points for profile 4, p<.05), most of the corresponding increase in independence for dropouts was in profile 2 (independent in two domains—18 percentage points, p<.05), with no significant increase in profile 1 to match that experienced by graduates.

The distribution of profiles was virtually unchanged among youth who had aged out of secondary school. No significant gains in more independent profiles or declines in less independent profiles were observed for youth who aged out of school, in the aggregate.

With these changes over time, graduates evolved a different distribution of profiles 3 to 5 years after secondary school relative to dropouts. Whereas in the early years after secondary school, there were no significant differences in the distribution of profiles for the two groups, 3 years later, graduates had significantly more youth who fit profile 1 than did dropouts (25% vs. 14%; p<.05). Further, graduates were significantly less likely than dropouts to be inactive (profile 5—12% vs. 22%; p<.10) or institutionalized (profile 6—<1% vs. 8%; p<.05). The benefits of increased education among graduates may have been emerging in the form of higher levels of general independence relative to dropouts.

In contrast, as time passed, youth who aged out of school were being left farther behind by their peers who graduated or dropped out. For example, whereas in the first 2 years after secondary school, there were no significant differences between graduates and those who aged out in the percentage who fit profiles 1 (most independent) or 5 (not active), 3 years later, the percentage of those who aged out who fit profile 1 (8%) was significantly lower than that of graduates (25%; p<.001) and the percentage who matched profile 5 (25%) was significantly higher than that of graduates (12%; p<.10). Compared with dropouts, too, ageouts were becoming relatively less independent. In the early years after secondary school, for example, dropouts and ageouts had similar percentages of youth who fit profile 2 (independent in two domains), but youth who aged out were significantly less likely than dropouts to be that independent 3 years later (26% vs. 46%; p<.05).



Difference

Profile		
1	19.6***	(3.4)
2	9.9*	(4.7)
3	-8.1**	(3.1)
4	-12.9***	(3.3)
5	-9.4	(3.6)
6	-.1	(.5)

1	3.3	(5.6)
2	17.6*	(8.1)
3	- 9.0†	(5.5)
4	-12.9*	(5.9)
5	-4.6	(7.4)
6	5.6	(3.7)

1	4.5	(3.7)
2	1.5	(7.2)
3	-.5	(4.8)
4	-5.8	(7.8)
5	2.1	(7.0)
6	-1.7	(2.9)

Standard errors are in parentheses.
† p < .10, * p < .05, ** p < .01, *** p < .001

FIGURE 7-5 LIFE PROFILES OF YOUTH WITH DISABILITIES, BY SECONDARY SCHOOL COMPLETION

Movement Between Life Profiles Over Time

A second view of the evolution of the life profiles of out-of-school youth with disabilities is given in Table 7-5, which shows the movement of youth between profiles over the time period studied in the NLTS. The changes in the aggregate distributions of most profiles shown in Figure 7-2 are mirrored in the high level of fluctuation in the profiles youth had at the two points in time. For example, fewer than two-thirds of youth with the greatest level of independence in the first 2 years after secondary school (63%) still fit the first profile 3 years later. Of those who no longer had profile 1 (37%), the vast majority (31%) moved to profile 2, youth who were independent in two domains.

Table 7-5

CHANGE IN LIFE PROFILES OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

	Life Profiles Less Than 2 Years After Secondary School:					
	1 Independent, 3 Domains	2 Independent, 2 Domains	3 Independent, 1 Domain	4 Active, Not Independent	5 Not Active	6 Institutionalized
Percentage of youth 3 to 5 years after secondary school who were:						
1 Independent, 3 domains	63.4	26.8	25.1	9.9	9.6	.0
	(13.9)	(4.2)	(6.2)	(3.9)	(4..0)	(.0)
2 Independent, 2 domains	31.1	50.4	41.8	43.7	40.4	1.0
	(13.3)	(4.7)	(7.1)	(6.4)	(6.6)	(4.8)
3 Independent, 1 domain	2.4	8.2	5.3	11.1	7.9	1.8
	(4.4)	(2.6)	(3.2)	(4.1)	(3.6)	(6.4)
4 Active, not independent	.9	3.7	10.6	16.1	9.5	35.5
	(2.7)	(1.8)	(4.4)	(4.8)	(3.9)	(22.8)
5 Not active	2.1	9.1	14.7	14.7	30.8	10.3
	(4.2)	(2.7)	(5.1)	(5.1)	(6.2)	(14.5)
6 Institutionalized	.0	1.8	2.5	4.6	1.7	51.4
	--	(1.3)	(2.2)	(2.7)	(1.8)	(23.8)
n	91	551	235	417	387	25

Standard errors are in parentheses.

Half of youth who had been independent in two domains shortly after secondary school (profile 2) had the same profile later. Youth who moved out of profile 2 were about equally likely to move toward greater independence (profile 1, 27%) as less independence (profiles 3 through 6, 23%). Profile 3 was the least stable over time, with 5% of the youth who fit that profile within 2 years of leaving secondary school having the same profile later. Two-thirds of the youth who initially had profile 3 acquired profiles characterized by greater independence; 42% fit profile 2 and 25% were independent in all three domains (profile 1) 3 years later.

Youth who initially were active but not independent (profile 4) also were most likely to have moved toward greater independence in the subsequent 3 years. Only 16% of youth who fit profile 4 in the early years after secondary school had the same profile later, whereas 44% became independent in two domains (profile 2) and 10% became independent in all three domains (profile 1); 19% of youth who initially fit profile 4 were less independent later.

Regarding inactive youth (profile 5) who had been out of school less than 2 years, 31% retained that profile over time. Profile 2 became the most common profile among those who had been in profile 5 earlier, with 40% of profile 5 youth becoming independent in two domains (profile 2) in the 3-year period, a considerable gain in independence. Note that few youth (10%) who initially fit profile 5 moved to profile 4, suggesting that the kinds of supported work and living situations encompassed by profile 4 are not common stepping stones for youth moving from inactivity to involvement in the residential or engagement domains in the early years after secondary school.

About half of youth who had been institutionalized when out of school less than 2 years retained profile 6, whereas 10% moved to profile 5 (not active, but not institutionalized), and 36% became active but not independent (profile 4). Moving into the supported work and supervised group living situations captured by profile 4 was more common for youth leaving institutions than for youth who had initially fit other profiles, although large standard errors mean that the difference failed to attain statistical significance at conventional levels.

To summarize the general movement among categories, we find that 4% of youth were fully independent (profile 1) at both points in time. Half of youth increased their level of independence by moving to a profile one or more steps up the scale. One in 6 youth (16%) were stable over time with a moderate level of independence (profile 2 or 3). Overall, 18% of youth declined in their level of independence, moving down the scale of profiles one or more steps, and 12% of youth were stable over time at a low level of independence (profiles 4 through 6).

How did these patterns of movement between profiles differ for different kinds of youth? Although earlier discussions examined the changes over time in the aggregate rates at which youth were in each profile, did these aggregate figures mask patterns of fluctuations that differed for youth with different characteristics?

Throughout this report, we have limited our examination of youth characteristics and their relationship to outcomes to a discussion of variations by disability category, gender, ethnic background, and secondary school completion. These characteristics were chosen because many of the outcomes we have studied are known to vary significantly for youth who differ on these characteristics. We have not extended our analyses beyond those factors because earlier NLTS work (Wagner et al., 1991) looked in detail at numerous youth characteristics and their relationships to outcomes.

However, that earlier work did not include analyses of the profiles we are exploring here. Hence, our examination of movement among profiles over time goes beyond the limited set of youth characteristics considered in earlier chapters. We add to those a look at movement between profiles and measures of youths' functional abilities in an effort to understand the extent to which functional skills relate to the levels of independence youth attained in their early years after secondary school. We also look at the important contribution of economic status to independence, a factor found to relate to transition success for several outcomes examined (Wagner, 1991).

We consider these disability and demographic factors in relationship to the five patterns of experience with profiles over the two time periods that are mentioned above: (1) youth who were fully independent (profile 1) at both points), (2) those who moved upward in the ordinal scale of profiles (e.g., from profile 2 to 1, from profile 4 to 2), (3) youth who had the same profile at the two time points and those profiles were moderately independent (either profile 2 or 3), (4) youth who moved to a less independent profile (e.g., from profile 2 to 3, from 1 to 6), and (5) youth who had the same profile at the two time points and the profile had a low level of independence (profile 4, 5, or 6).

Disability Characteristics and Fluctuations in Life Profiles

As with all other outcomes considered by the NLTS, we distinguish the distribution of youth among profiles according to their primary disability category. However, the labels that distinguish disability categories mask a tremendous amount of variation in abilities of the youth who share the same categorical labels (Marder and Cox, 1991). Because it may not be the nature or label of the disability, but youths' functional abilities that relate to their movement toward greater or less independence, we also consider here the relationship of movement between profiles and three measures of youths' functional abilities (see Appendix C for more information on the creation of these measures).

One measure of functional skills relates to the self-care abilities of youth. Parents were asked to rate their children's ability to perform three basic self-care tasks on their own without help: dress themselves completely, feed themselves, and get around to places outside the house, as to a neighbor's house or a nearby park. Parents rated youths' abilities on each task on a 4-point scale ranging from "very well" (4 points) to "not at all well" (1 point). The ratings were summed to create a scale ranging from 3 (all three tasks done "not at all well") to 12 (all three tasks done "very well").

A similar scale was created to measure parent ratings of youths' abilities to perform four basic functional mental skills: read common signs, count change, tell time on a clock with hands, and look up telephone numbers and use the phone. Parent ratings on a 4-point scale were summed to create a scale ranging from 4 (all four tasks done "not at all well") to 16 (all four tasks done "very well").

A third scale measured parent assessments of youths' abilities to function in the community. They rated youth on their ability to: go to a library or community swimming pool, use public transportation, buy their own clothes at a store, and arrange a plane or train trip to go out of town. If youth did not have the opportunity to perform any of these tasks, parents were instructed to assess how well they thought youth could do the activities if given the opportunity. Ratings on a 4-point scale were summed to create a measure of community living skills that ranged from 4 (all four tasks done "not at all well") to 16 (all four tasks done "very well").

Table 7-6 displays the extent to which youth moved toward more or less independent profiles or retained the same profile over the time period, and how those patterns of movement varied for youth with different disability characteristics and levels of functional ability.

Relatively few youth in any disability category were fully independent (profile 1) at both points in time. However, among youth in six disability categories, the majority of youth either were fully independent or moved toward greater independence over time, including those with learning disabilities (58%); serious emotional disturbances (54%); and speech (56%), visual (58%), or orthopedic impairments (52%); and youth who were deaf (53%). Youth who were hard of hearing or were classified as other health impaired or mentally retarded also had relatively large percentages of youth who increased their levels of independence (44% and 46%). Youth with multiple handicaps or who were deaf/blind had a different pattern, with more than half of youth in those categories moving toward less independence or maintaining a relatively low level of independence (profile 4, 5, or 6) over time.

Table 7-6

FLUCTUATION IN LIFE PROFILES OF YOUTH WITH DISABILITIES, BY DISABILITY CHARACTERISTICS

	Percentage of Youth Who:					
Youth Characteristics	Were Fully Independent (Profile 1) at Both Times	Moved Toward Greater Independence	Were Stable, Moderate Independence (Profiles 2-3)	Moved Toward Less Independence	Were Stable, Low Independence (Profiles 4-6)	n
All youth	4.0 (1.2)	50.0 (3.0)	16.0 (2.2)	18.3 (2.3)	11.6 (1.9)	1,706
Primary disability category						
Learning disabled	6.6 (2.3)	51.7 (4.7)	19.9 (3.8)	14.5 (3.3)	7.3 (2.4)	305
Emotionally disturbed	1.2 (1.3)	52.3 (6.1)	15.7 (4.4)	24.3 (5.2)	6.5 (3.0)	178
Speech impaired	2.8 (2.5)	53.4 (7.5)	17.4 (5.7)	19.4 (5.9)	7.0 (3.8)	118
Mentally retarded	.6 (.8)	46.1 (5.3)	8.2 (2.9)	23.8 (4.5)	21.4 (4.4)	242
Visually impaired	5.3 (3.0)	52.6 (6.6)	13.0 (4.4)	19.3 (5.2)	9.8 (3.9)	159
Hard of hearing	1.6 (2.0)	43.9 (7.8)	27.6 (7.0)	20.7 (6.3)	6.2 (3.8)	132
Deaf	3.6 (2.0)	49.0 (5.3)	18.2 (4.1)	25.7 (4.7)	3.4 (1.9)	233
Orthopedically impaired	.7 (1.3)	51.3 (7.8)	6.2 (3.8)	9.9 (4.7)	31.8 (7.2)	143
Other health impaired	.0 --	45.9 (10.2)	26.6 (9.0)	9.6 (6.0)	17.9 (7.8)	73
Multiply handicapped	.0 --	30.6 (8.8)	2.3 (2.8)	25.2 (8.3)	41.9 (9.4)	92
Deaf/blind	.0 --	25.2 (10.5)	11.6 (7.7)	18.6 (9.4)	44.6 (12.0)	31

Table 7-6 (Concluded)

Youth Characteristics[a]	Percentage of Youth Who: Were Fully Independent (Profile 1) at Both Times	Moved Toward Greater Independence	Were Stable, Moderate Independence (Profiles 2-3)	Moved Toward Less Independence	Were Stable, Low Independence (Profiles 4-6)	n
Youth's self-care abilities were:						
High (11 to 12)	4.2	50.9	17.3	18.4	9.2	1,367
	(1.3)	(3.2)	(2.4)	(2.5)	(1.9)	
Medium (8 to 10)	.4	34.4	2.7	16.7	45.9	209
	(1.1)	(8.7)	(3.0)	(6.8)	(9.1)	
Low (3 to 7)	.0	44.6	.8	25.4	29.2	85
	--	(10.8)	(2.0)	(9.5)	(9.9)	
Youth's functional mental skills were:						
High (15 or 16)	2.7	53.2	19.7	18.5	5.9	859
	(1.3)	(4.0)	(3.2)	(3.1)	(1.9)	
Medium (9 to 14)	6.9	44.1	12.4	19.2	17.5	598
	(2.6)	(5.0)	(3.3)	(4.0)	(3.9)	
Low (4 to 8)	3.0	34.5	8.5	17.3	36.8	171
	(3.2)	(9.1)	(5.3)	(7.2)	(9.2)	
Youth's community living skills were:						
High (15 or 16)	5.0	55.4	19.7	14.9	4.9	758
	(1.8)	(4.2)	(3.4)	(3.0)	(1.8)	
Medium (9 to 14)	1.6	40.1	14.9	28.5	14.9	508
	(1.4)	(5.3)	(3.8)	(4.9)	(3.8)	
Low (4 to 8)	.0	41.9	.7	16.7	40.7	269
	--	(7.3)	(1.3)	(5.6)	(7.3)	

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[a] Self-care abilities: Parents rated on a 4-point scale youths' abilities to dress themselves, feed themselves, and get around to nearby places outside the house. Scores were summed to create a scale ranging from 3 to 12.
Functional mental skills: Parents rated on a 4-point scale youths' abilities to read common signs, count change, tell time on a clock with hands, and look up telephone numbers and use the phone. Scores were summed to create a scale ranging from 4 to 16.
Community living skills: Parents rated on a 4-point scale youths' abilities to go to a library or community swimming pool, use public transportation, buy their own clothes at a store, and arrange a plane or train trip to go out of town. Scores were summed to create a scale ranging from 4 to 16.

Standard errors are in parentheses.

Table 7-6 demonstrates the strong relationship between functional abilities and the pattern of life profiles achieved by out-of-school youth with disabilities. On all three measures of ability, more than half of those given high scores either were fully independent (profile 1) at both time points or increased in independence over time, whereas more than half of those with low abilities either decreased their level of general independence or maintained a low level of independence over time. For example, 56% of youth with high functional mental skills either fit profile 1 at both points or moved toward greater independence. In contrast, 54% of youth with low functional mental skills either decreased independence or maintained a low level of independence (profiles 4 through 6).

However, it is heartening to note that even among youth with low abilities on these scales, a large fraction of youth moved toward greater independence. More than 4 in 10 youth with low self-care skills or low community living skills increased their independence, as did 34% of youth with low functional mental skills. On the other hand, high abilities are no guarantee of independence; 9% of those with high self-care skills, 6% of those with high functional mental skills, and 5% of those with high community living skills maintained relatively low levels of independence over time.

Table 7-7 depicts the relationship of several demographic characteristics of youth and their pattern of life profiles over time. No gender differences are apparent in the stability or fluctuations of youths' life profiles. In contrast, significant differences are observed between white and nonwhite youth. Nonwhite youth were significantly more likely to have lost independence or maintained a low level of independence (38%) than were white youth (26%; p<.05). A similar pattern is observed regarding household income; those with lower incomes were more likely to have maintained low independence, for example, than were youth from higher-income families (14% vs. 7%; p<.05).

Regarding secondary school completion, graduates demonstrated a consistently more positive pattern of profiles than dropouts over time, but the differences in particular patterns of stability or fluctuation were not large enough to attain statistical significance. The difference in patterns of life profiles between graduates and those who aged out, however, were larger and statistically significant. For example, 54% of graduates increased their levels of independence over time, compared with 40% of those who aged out of secondary school (p<.05). Similarly, 9% of graduates maintained a low level of independence over time, compared with 24% of those who aged out (p<.01).

Finally, Table 7-8 suggests some of the changes in youths' experiences that related to their fluctuation in life profiles. Changes in employment status were significant contributors to movement among profiles. Youth who were competitively employed when they were out of school less than 2 years, but not 3 years later, were significantly more likely than any other youth to have moved over time to profiles characterized by less independence (54%). In contrast, virtually all those who became competitively employed fit more independent profiles

Table 7-7

FLUCTUATION IN LIFE PROFILES OF YOUTH WITH DISABILITIES, BY DEMOGRAPHIC CHARCTERISTICS

	Percentage of Youth Who:					
Youth Characteristics[a]	Were Fully Independent (Profile 1) at Both Times	Moved Toward Greater Independence	Were Stable, Moderate Independence (Profiles 2-3)	Moved Toward Less Independence	Were Stable, Low Independence (Profiles 4-6)	n
Gender						
Male	4.7	49.6	16.6	19.5	9.6	1,066
	(1.5)	(3.5)	(2.6)	(2.8)	(2.1)	
Female	2.7	50.8	14.8	15.8	16.1	640
	(1.8)	(5.7)	(4.1)	(4.2)	(4.2)	
Ethnic background						
White	5.0	51.4	17.2	16.2	10.2	1,184
	(1.5)	(3.5)	(2.6)	(2.6)	(2.1)	
Nonwhite	1.8	47.0	13.4	23.2	14.6	518
	(1.5)	(5.8)	(3.9)	(4.9)	(4.1)	
Secondary school completion						
Graduate	3.4	53.8	18.5	15.3	8.9	1,169
	(1.3)	(3.5)	(2.7)	(2.5)	(2.0)	
Dropout	5.8	44.8	12.1	23.3	14.0	246
	(3.0)	(6.4)	(4.2)	(5.4)	(4.5)	
Ageout	1.5	39.5	13.2	22.2	23.5	287
	(1.5)	(6.0)	(4.1)	(5.1)	(5.2)	
Household income						
Less than $25,000 per year	5.2	47.9	13.7	18.8	14.4	805
	(1.9)	(4.2)	(2.9)	(3.3)	(3.0)	
$25,000 per year or more	2.9	53.7	18.6	17.5	7.2	757
	(1.4)	(4.2)	(3.3)	(3.2)	(2.2)	
Youth's age in 1990:						
21 or less	2.9	57.4	11.3	19.2	9.2	324
	(2.1)	(6.2)	(4.0)	(4.9)	(3.6)	
22 or 23	5.1	48.9	18.8	17.1	10.0	758
	(1.8)	(4.1)	(3.2)	(3.1)	(2.4)	
24 or older	2.4	38.4	15.7	21.1	22.3	624
	(1.2)	(3.9)	(2.9)	(3.3)	(3.3)	

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[a] Self-care abilities: Parents rated on a 4-point scale youths' abilities to dress themselves, feed themselves, and get around to nearby places outside the house. Scores were summed to create a scale ranging from 3 to 12.
Functional mental skills: Parents rated on a 4-point scale youths' abilities to read common signs, count change, tell time on a clock with hands, and look up telephone numbers and use the phone. Scores were summed to create a scale ranging from 4 to 16.
Community living skills: Parents rated on a 4-point scale youths' abilities to go to a library or community swimming pool, use public transportation, buy their own clothes at a store, and arrange a plane or train trip to go out of town. Scores were summed to create a scale ranging from 4 to 16.

Standard errors are in parentheses.

Table 7-8

FLUCTUATION IN LIFE PROFILES OF YOUTH WITH DISABILITIES, BY FLUCTUATIONS IN EMPLOYMENT AND INDEPENDENT LIVING

	Percentage of Youth Who:					
Youth Characteristics[a]	Were Fully Independent (Profile 1) at Both Times	Moved Toward Greater Independence	Were Stable, Moderate Independence (Profiles 2-3)	Moved Toward Less Independence	Were Stable, Low Independence (Profiles 4-6)	n
Employment pattern						
Worked competitively at neither time	.1	41.0	3.6	17.3	38.0	682
	(.3)	(5.6)	(2.1)	(4.3)	(5.5)	
Became unemployed	.2	22.8	22.6	54.4	.0	209
	(.8)	(6.8)	(6.8)	(8.1)	--	
Became competitively employed	1.5	92.4	3.7	1.2	1.2	303
	(1.6)	(3.5)	(2.5)	(1.4)	(1.4)	
Worked competitively at both times	10.8	43.1	33.5	12.6	.0	475
	(3.1)	(4.9)	(4.7)	(3.3)	--	
Residential living pattern						
Lived indpendently at neither time	.0	38.6	17.4	24.4	19.6	1,025
	--	(3.8)	(3.0)	(3.4)	(3.1)	
Lost residential independence	.0	6.1	24.7	69.3	.0	61
	--	(7.0)	(12.6)	(13.4)	--	
Gained residential independence	.0	85.3	14.2	.6	.0	475
	--	(3.8)	(3.7)	(.8)	--	
Lived independently at both times	46.9	21.4	11.6	20.1	.0	137
	(11.4)	(9.3)	(7.3)	(9.1)	--	

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[a] Self-care abilities: Parents rated on a 4-point scale youths' abilities to dress themselves, feed themselves, and get around to nearby places outside the house. Scores were summed to create a scale ranging from 3 to 12.
Functional mental skills: Parents rated on a 4-point scale youths' abilities to read common signs, count change, tell time on a clock with hands, and look up telephone numbers and use the phone. Scores were summed to create a scale ranging from 4 to 16.
Community living skills: Parents rated on a 4-point scale youths' abilities to go to a library or community swimming pool, use public transportation, buy their own clothes at a store, and arrange a plane or train trip to go out of town. Scores were summed to create a scale ranging from 4 to 16.

Standard errors are in parentheses.

as a consequence (92%). Only 13% of youth who were competitively employed at both time points lost independence over time.

Similarly, losing residential independence was an event that moved a majority of youth who experienced it toward less independent profiles (69%). Conversely, gaining residential independence moved the majority of those youth (85%) toward greater overall independence.

Summary and Implications

In this chapter we have explored a new approach to measuring the independence of out-of-school youth with disabilities. The life profiles we have developed assess the degree of independence of young people with disabilities in the productive-engagement, residential, and social domains. Using these profiles, we have demonstrated a significant movement toward greater general independence for youth with disabilities overall, and for youth in most disability categories. By the time youth had been out of secondary school 3 to 5 years, 20% of youth had the most independent profile, depicting youth who were functioning independently in all three domains; another 43% of youth had profile 2, functioning independently in two of the domains addressed by the profiles. These figures bespeak true accomplishments for many youth.

However, we must temper this good news with a caution. The profiles we have developed imply that youth in profile 1 have, in some sense, "made it." Profile 1 implies the greatest independence captured by this construct, but we should not be tempted to consider it a sufficient achievement for young people moving into adulthood. We are reminded that the full-time productive engagement outside the home that was common for the most independent youth still frequently meant employment at relatively low-skill and low-paying jobs. As was pointed out in Chapter 4, full-time workers earning the median wage for youth with disabilities out of school 3 to 5 years would still earn an annual income of less than $12,000, enough to ensure poverty for a young family of three if they relied on that salary alone for support. By this outward measure of financial independence, many youth will be working for more than the independence captured even by profile 1.

By inward measures, too, the independence entailed in the profiles may not be a sufficient achievement for youth with disabilities if they have the desire and potential for continued movement forward. However, some youth may need support to realize their potential for greater independence. Parents of youth with disabilities who were not currently receiving various services at the time youth had been out of school 3 to 5 years were asked if they believed youth needed those services. Table 7-9 suggests that there are unmet needs for support services even among youth who, by the life profiles we have developed, have achieved the fullest degree of independence. For example, among the most independent youth, those with profile 1, one-fourth of unserved youth were perceived by parents to be in need of vocational assistance, in the form of further training, job counseling, or job placement

Table 7-9

SERVICES REPORTED NEEDED BY YOUTH WITH DISABILITIES OUT OF SECONDARY SCHOOL 3 TO 5 YEARS

Services Reported Needed by Youth	3 to 5 Years After Secondary School, Youth Had Profile: Profile 1: Independent, 3 Domains	Profile 2: Independent, 2 Domains	Profile 3: Independent, 1 Domain	Profile 4: Active, Not Independent	Profile 5: Not Active	Profile 6: Institutionalized
Percentage of youth not receiving the services whose parents reported that the youth needed them:						
Vocational assistance	25.5 (5.9)	43.3 (5.1)	56.1 (10.7)	43.0 (11.4)	61.2 (7.9)	79.5 (14.6)
n	271	519	110	129	274	35
Occupational therapy/life skills training	19.9 (5.0)	28.3 (4.4)	38.4 (10.0)	42.1 (10.8)	51.9 (8.0)	--
n	328	584	118	151	280	24
Tutor/reader/interpreter	10.8 (4.0)	24.8 (4.2)	24.9 (8.6)	33.3 (8.4)	35.8 (7.6)	45.0 (18.5)
n	277	562	123	201	273	31
Speech/language therapy	5.4 (2.8)	12.4 (3.2)	11.4 (6.2)	27.5 (7.6)	18.3 (6.0)	34.0 (17.4)
n	331	625	129	211	285	31
Personal counseling/therapy	15.6 (4.6)	21.4 (4.1)	20.5 (8.3)	28.3 (8.1)	40.4 (7.9)	--
n	317	592	123	190	276	27
Physical therapy/mobility training[a]	4.2 (5.3)	17.7 (5.8)	8.3 (6.8)	16.4 (7.0)	27.6 (7.4)	--
n	69	381	90	187	212	16

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[a] Questions regarding physical therapy/mobility training were not asked of respondents regarding youth whose only known disabilities were learning, emotional, hearing, or speech impairments. Hence, the sample sizes for this question are smaller than for other services.

Note: Percentages are provided only for groups of at least 30 youth.

Standard errors are in parentheses.

assistance. One in 5 unserved youth with the most independent profile still were reported by parents to need occupational therapy or life skills training for their future development.

Levels of unmet need were generally higher for youth with less independent profiles. For example, reported levels of need were lowest in all cases for youth with profile 1 and were highest for all of the services for youth with profiles 5 or 6, although differences were not always statistically significant.

We do not know to what extent parents' perceptions of their young adult children's needs reflect "true" need for services. Their perceptions of need do, however, suggest that parents believe their children had the potential for greater independence than they had thus far achieved and that support services were needed to translate that potential into accomplishment. This appeared to be most true for youth who had achieved the least independence thus far, particularly those with profile 5. As was demonstrated early in this chapter, these youth not only were least engaged outside the home, they also were less likely to be spending their time in activities that might lead to future independence and were no more likely than other youth to be receiving many kinds of services to further their independence, although services were perceived by parents to be needed. Without intervention by the adult service system, prospects for increased independence for these youth appear dim.

In short, current levels of independence translate into continued financial dependence for many youth. Current levels of independence also may fail to tap the full degree of independence of which youth are capable, given appropriate support. Both these facts imply that many youth will be continuing to strive for greater independence in the future. New and better outcome measures will be needed to assess that progress.

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8 TRANSITION: CHANGES, CHALLENGES, CAUTIONS

by Mary Wagner

The analyses presented in early chapters of this report address trends in particular postschool outcomes of youth with disabilities—employment, postsecondary education, residential arrangements. Chapter 7 presents analyses of life profiles of youth—a concept that combines a variety of outcomes to assess general levels of independence in several domains of youths' lives. What happens when we turn our attention to the youth themselves, rather than to their transition outcomes? What pictures emerge when our focus is on youth with a particular kind of disability? Or on young women? Or on dropouts?

In this chapter, we change our focus to give our attention to youth with particular characteristics. We synthesize what we have learned across the several transition outcome domains about youth with particular disability classifications and modes of school leaving, about young men and women, and about white and minority youth. This shift in perspective enables us to summarize the experiences of youth with these various characteristics to reveal those who are succeeding relative to their peers, and those whose transitions to early adulthood have been the particularly problematic.

Disability Category—A Broad Spectrum of Experience

Earlier NLTS work has demonstrated the wide variation in experiences of youth with different disability classifications (Wagner et al., 1991). In many respects, youth with different kinds of disabilities may be less like each other in their experiences than they are like youth without identified disabilities. The following sections summarize what we have learned about the trends in postschool outcomes of youth with different disability classifications.

Youth with Learning Disabilities or Speech Impairments

In many respects, youth with learning disabilities or speech impairments are the relative success stories in the transition arena. Youth in these categories experienced the largest increases in employment overall, and in full-time employment in particular, so that when they had been out of secondary school 3 to 5 years, their rates of employment were virtually equal to those of youth in the general population. The wage gains of working youth with learning disabilities or speech impairments also were significant, and were among the largest attained by youth in any disability category.

In the residential arena, too, youth with these disability classifications were making significant progress toward independence; 40% or more of youth were living independently 3 to 5 years after leaving school, a sizable increase in residential independence over the earlier time period. These youth were among the most active socially, seeing friends and family members often. Despite a significant decline in group membership over time, few youth were socially isolated. With these achievements in the employment, residential, and social domains, youth with learning disabilities or speech impairments showed significant movement toward increased general independence, with 27% fitting profile 1—the classification of the most independent youth—when they had been out of secondary school 3 to 5 years.

However, one sobering aspect of their experiences should be noted. Youth with learning disabilities or speech impairments had among the highest dropout rates of youth in any disability category. About one-third of youth with these disability classifications dropped out of secondary school, and very few had returned and completed their secondary educations 3 to 5 years after leaving. Further, few had completed any kind of postsecondary education program. Although almost one-third of youth with learning disabilities and almost half of youth with speech impairments had enrolled in postsecondary schools of various kinds, only about 15% had earned a certificate, degree, or license, and few youth were continuing to work toward completing programs. If this relatively low rate of involvement in postsecondary education among youth with learning or speech impairments implies a lack of advancement in skills, they may reach a "ceiling" in their progress toward independence. Whereas the early experiences of youth with these disabilities mirrored fairly well those of youth in the general population, the higher rates of postsecondary education among youth in general may enable them to apply newly acquired skills toward better jobs and greater financial independence. We do not see evidence that the majority of youth with learning or speech impairments will have newly acquired skills with which to make the same strides forward in future years.

However, postsecondary education is not an experience limited to the early years after high school. One of the six national goals for the American educational system is to make this a nation of "lifelong learners" (U.S. Department of Education, 1991). As postsecondary schools increasingly institute programs of support for youth with learning problems and other disabilities, perhaps those classified as learning disabled or speech impaired will take advantage of opportunities to obtain further education or training in the future.

Youth with Multiple Disabilities

As youth move farther into their early adult years, we see the pervasive and significant challenges to independence posed by multiple disabilities. No matter what outcome we observe, youth classified as having multiple impairments were the exception to the rule of increasing independence. We find that :

- Whereas the employment rate for youth with disabilities as a whole increased by 11 percentage points over the 3-year time period studied by the NLTS, the rate for those with multiple impairments was virtually unchanged.

- Although 36% of high school graduates with disabilities had enrolled in postsecondary schools 3 to 5 years after high school, only 14% of graduates with multiple handicaps had done so.

- Youth with disabilities as a whole experienced a 26 percentage point increase in independent living over the time period, so that, 3 to 5 years out of school, 37% were living independently. Among youth with multiple impairments, the trend was flat, and only 13% were living independently 3 to 5 years after leaving secondary school. More than one-third were living in supervised settings.

- Among youth with disabilities overall, 6% of youth were socially isolated 3 to 5 years after leaving school. Among youth with multiple impairments, the rate was significantly higher; 25% were socially isolated—seeing friends less often than weekly, not belonging to groups, and not being married or engaged.

- Analyses of the NLTS life profiles reveal a 14 percentage point increase in having the most independent profile among youth with disabilities as a whole; there was no such increase among those with multiple handicaps. Youth in that disability category were most likely to be active but not independent in any domain (profile 4), or entirely inactive (profile 5).

Coupled with these somewhat discouraging findings, however, are some hints of what may well have been real personal triumphs for those involved. When youth with multiple handicapes had been out of secondary school less than 2 years, almost one-fourth of their parents reported that they doubted the youth would ever be able to live on their own without supervision in the future; about 25% of those youth had proven their parents wrong and established independent living arrangements in the subsequent 3 years. Although the basic self-care skills scale* developed for the NLTS reveals that 15% of youth had serious difficulties with such basic tasks as dressing and feeding themselves, 42% of youth with low self-care skills still had achieved greater independence over time, moving to a more independent life profile during the 3-year period of the NLTS. Multiple disabilities did not relegate all of these youth to a static level of dependence.

But what made the difference? Why did some youth with multiple impairments and low functional abilities of various kinds move toward greater independence when many did not? This question is the focus of future NLTS analyses of school programs and adult services and their relationships to postschool outcomes. Some clues have emerged already, however.

In earlier NLTS analyses, D'Amico (1991) found that a higher probability of employment was related to higher family income among those with severe functional deficits, as it was for other youth with disabilities and for those in the general population. The financial resources and/or personal networks implied by higher family income provide youth with advantages in achieving more successful transitions, regardless of the severity of their disabilities.

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* See Appendix C for information on this scale.

Another clue to "what helps" may be suggested in our consideration of supported and sheltered employment in Chapter 4. Although these forms of employment were relatively uncommon for youth with disabilities as a whole, 25% of youth classified as multiply handicapped were working 3 to 5 years after secondary school in paid sheltered or supported jobs. These alternatives to competitive employment may have provided the opportunities that enabled youth to move from inactivity to involvement in the employment domain.

Other clues might be found in Chapter 7 in our brief look at youths' experiences with support services of various kinds. Many inactive youth (profile 5) were unlikely to be receiving support services (e.g., vocational assistance, life skills training), and were considered by their parents to be in need of services to support their movement toward greater independence. Youth who had achieved some level of involvement outside the home (profile 4) were more likely to be served, leaving relatively less perception of unmet needs. This pattern suggests that, at least in the minds of parents, services were meeting the needs of many youth, enabling them to become active in the world of work, schooling, or independent living. In a time of budget cutbacks for many support services, these youth may be the lucky ones—those with unmet needs may find it increasingly difficult to find the sources of support they believe will help them achieve greater independence.

Youth with Mental Retardation

The category of youth with mental retardation includes those with an extremely broad range of intellectual abilities. Within this category are youth with such severe retardation that their intellectual ability is not measurable. At the other end of the spectrum are youth with measured IQs as high as 79, the cutoff in some states for classifying students as having mental retardation. Using a single category label, rather than distinguishing youth based on the severity of their retardation, masks this diversity of ability and a corresponding diversity of experience. Nevertheless, only the label, not severity of disability, was known to the NLTS for many youth with mental retardation. Hence, we have provided a snapshot of the experiences of youth with this classification as a group, knowing that the individual experiences of youth within the group may have differed markedly.

Nonetheless, the pattern of experiences that has emerged for youth classified as mentally retarded is instructive. In the social domain, youth with mental retardation are as socially active as youth in virtually any disability category. As a group, they saw friends often and were as likely as any other category of youth to belong to social or community groups. Only 6% were socially isolated. Overall, 14% of youth with mental retardation were married and 41% were registered to vote, not significantly lower rates than those for youth with disabilities as a whole (19% and 51%). The arrest rate 3 to 5 years after secondary school for youth with this classification was lower than for youth with disabilities as a whole (18% vs. 30%).

In the employment and residential domains, youth with mental retardation experienced significant improvements over time. Yet even those gains left them well behind youth in many other disability categories. For example, youth classified as mentally retarded experienced a 12 percentage point gain in employment over 3 years, as large as for youth with disabilities as a whole or youth in most other categories. Still, 3 to 5 years after secondary school, only 37% of youth with mental retardation were competitively employed, compared with 57% of youth with disabilities as a whole. Similarly, youth with mental retardation demonstrated a 19 percentage point gain over 3 years in the proportion living independently, not significantly different from the 26 percentage point gain of youth with disabilities as a whole. Yet 3 to 5 years after secondary school, those with mental retardation still were significantly less likely than other youth with disabilities to be living independently (24% vs. 37%). Increases also were evident in the percentage of youth with mental retardation that had profiles characterized by independence in two or three of the important domains captured by the NLTS life profiles.

Thus, the pattern of experience of youth with mental retardation differs from the patterns of both those with milder impairments and those with multiple impairments, as described earlier. Youth with mental retardation experienced gains in employment and residential independence that suggest much more hope for their futures than can be derived from the relatively flat trends found for youth with multiple disabilities. Yet even substantial gains leave youth with mental retardation well behind those with learning or speech impairments, for example, in the rates at which they had found competitive employment or independent living arrangements. The increases we have seen in their early years after high school will need to be sustained for several more years if many youth with mental retardation are to achieve adult independence.

Youth with Emotional Disturbances

Earlier NLTS work expressed concern about the experiences of youth classified as seriously emotionally disturbed during secondary school and the early postschool years (Wagner, 1991b). Charting the trends in their experiences reinforces that concern.

More than half of youth with serious emotional disabilities had left secondary school by dropping out; only 3% subsequently completed secondary school or equivalency programs. The rate at which they had enrolled in any kind of postsecondary education 3 to 5 years after high school was among the lowest of youth in any disability category (26%). Although they had been fairly successful, relative to youth with other kinds of disabilities, in finding jobs in the first 2 years out of high school, the gains in employment noted for youth with learning disabilities, for example, were not realized by youth with serious emotional disturbances. Further, their job experiences were characterized by greater instability than those of other youth. For example, only 1 in 4 youth with serious emotional disturbances had been employed at both the time periods studied by the NLTS, compared with almost half of youth with learning disabilities. Although those with learning disabilities were much more likely to have gained employment over time, those classified as seriously emotionally disturbed were just as likely to have lost a job as found one.

Perhaps most disturbing, however, is the continuing pattern of poor social integration exhibited by these youth. Although they were quite active in informal networks with family and friends, involvement in society more broadly was problematic. They were among the least likely youth to belong to social or community groups or to be registered to vote. By the time they had been out of school 3 to 5 years, almost 6 of 10 youth with emotional disturbances had been arrested (58%)—18% had been arrested for the first time in the preceding 3 years, suggesting that problems with the law were not abating. Among the half of youth in this disability category who had dropped out of school, the arrest rate reached 73%.

The poor social integration of these youth exacts a high price, both from them and from society. Their job instability may cut into their earning power, making financial independence even more difficult to achieve. Their high rate of arrest implies costs to youth in lost freedom and costs to others if there were victims of the crimes for which they were arrested. Further, youth with emotional disturbances were most likely to be incarcerated, with the attendant high costs borne within the criminal justice system. Recent efforts to identify more effective treatment options for youth with emotional disturbances while they are still in school seem well placed (P.L. 101-476, Sec. 1426). In their case, an investment in improving social skills and social integration in their early years, if effective, might help to avoid some of the high costs associated with their pattern of subsequent postschool experiences.

Youth with Sensory Impairments

Although youth classified as deaf, hard of hearing, or visually impaired faced very different challenges in adapting to their disabilities, their experiences in several arenas after high school were quite similar. They shared a common rapid rise in the extent of their residential independence, for example; 3 to 5 years after secondary school, more than 4 in 10 youth with sensory impairments were living independently, a significant increase over the 16% or 17% living independently 3 years earlier. Youth with sensory impairments shared a greater propensity toward group memberships than was exhibited by youth with many other disability classifications and were no more likely than any other youth to have been arrested.

They also shared a somewhat troublesome pattern of experience in the job market. Youth with hearing or visual impairments experienced no significant gains in paid competitive employment rates between the two time points studied by the NLTS. They were significantly more likely than youth with learning or speech impairments, for example, to have been employed at neither of the time periods studied by the NLTS. About 40% of those with hearing impairments and 60% of those with visual impairments were not employed either when they had been out of school less than 2 years or 3 years later, compared with about 20% of those with learning or speech impairments, for example.

Despite this somewhat discouraging employment picture in the early postschool years for youth with sensory impairments, their longer-term prospects may be more encouraging. Youth with sensory impairments were the most likely youth in any disability category to be investing in their future in the form of continued education (perhaps as an alternative to early employment). Youth with sensory impairments were among the most likely to graduate from secondary school, and, with that credential, they enrolled in postsecondary schools at rates higher than those of youth with most other kinds of disabilities. Three to 5 years after secondary school, about 60% of youth with sensory impairments had been postsecondary students, a rate virtually as high as that of youth in the general population. They also were among the categories of youth most likely to have enrolled in 4-year colleges and to have been full-time, rather than part-time students. Three to 5 years after secondary school, about 40% of youth with sensory impairments had received postsecondary degrees, licenses, or certificates or were working toward them. The skills acquired through their continued schooling may give them the tools to move forward in the labor market in the subsequent years.

Youth with Physical or Health Impairments

Earlier NLTS work (Wagner et al., 1991) has shown that there was considerable ambiguity in classification of youth as orthopedically impaired or other health impaired. For example, 26% of youth who were classified as orthopedically impaired by their schools were described by parents as health impaired or were reported to have specific illnesses (cancer, asthma, epilepsy) that would have qualified them as other health impaired. Similarly, 19% of youth classified as other health impaired by their schools were reported by parents to be orthopedically impaired or to have specific disabilities (e.g., cerebral palsy, muscular dystrophy) that normally would qualify them as orthopedically impaired. Because of this ambiguity in assignment of youth to these two categories, we hypothesized that these categorical labels would not be very useful in distinguishing youth with these kinds of physical impairments and that their postschool experiences would be quite similar.

Some similarities were found in the exeriences of youth with orthopedic impairments and those classified as other health impaired. For example, in the social domain, when they had been out of school 3 to 5 years, they were about equally likely to be married (17% and 16%) or registered to vote (55% and 58%), to belong to groups (24% and 21%), and to have been arrested (8% and 9%).

However, differences in experience are just as noticeable. In the employment domain, for example, youth with orthopedic impairments had a pattern of poorer employment outcomes than did youth with other health impairments. Youth classified as orthopedically impaired were less likely than other health impaired youth to be competitively employed currently (22% vs. 40%) or ever since high school (55% vs. 83%). They also were marginally less likely to have enrolled in postsecondary schools (46% vs. 56%).

Even with the stronger outcomes experienced by youth with other health impairments relative to those with orthopedic impairments, neither category of youth approached the levels of employment of youth with disabilities as a whole, and were even farther from employment levels of youth in the general population. Additionally, gains in employment over time were not large for these youth. Residential independence, too, was difficult to achieve; those with other health impairments were the most likely, of youth in any disability category, still to be living with family members 3 to 5 years after secondary school (72%).

If difficulties of access to areas such as public transportation or the workplace underlie the relatively poor showing of youth with physical impairments in aspects of community living, such as employment and residential independence, the recently enacted Americans with Disabilities Act (ADA) of 1990 may hold promise for improvement in the future. The commitment to eliminating barriers to full access to public transportion, employment, communications, and other areas for persons with disabilities may be particularly beneficial for youth with physcial impairments.

Gender Differences In Postschool Outcomes

Young women with disabilities exhibited a markedly different pattern of experiences after leaving secondary school than did their male counterparts with disabilities. In important respects, they also differed from young women in the general population. Central to their experience was the predominance of their roles as wives and/or mothers.

In the first 2 years after secondary school, 12% of young women with disabilities were married, significantly more than the 4% marriage rate among young men. Three to 5 years after leaving school, almost one-third of women were married, compared with 15% of men. Although young women with disabilities were no more likely to be married than women in the general population, they were significantly more likely to be mothers. When they had been out of school 3 to 5 years, 41% of women with disabilities were mothers, compared with 28% in the general population of young women. Only 16% of men with disabilities were reported to be fathers. Almost three-fourths of married women with disabilities were mothers. One in 5 single women with disabilities were mothers, a significantly higher incidence of single parenthood than among young women in the general population. Motherhood was particularly common among female dropouts with disabilities; 54% were mothers, a significantly higher rate of parenting than among females who graduated or among male dropouts with disabilities.

The demands of homemaking and motherhood on young women with disabilities may help explain their lower level of involvement, relative to young men, in many activities outside the home. Women did not share the large increase in employment noted for men; 3 to 5 years after leaving school, 40% of women were working for pay in competitive jobs, compared with almost two-thirds of men. The employment rate of mothers was lower than the rate for young women who were not mothers. Women's jobs were much less likely to be full time than were jobs held by men. Women also were significantly less likely to be earning more than $6.00 per hour, perhaps because of their concentration in part-time jobs, which generally paid less.

In the social arena, too, young women were less involved than men. They were less prone to see friends often and less likely to belong to groups, showing a significant decline in group membership over time that was not experienced by men.

In contrast to their lower rates of employment and social activity, young women were more likely than men to be living independently, a fact attributable entirely to their higher rate of marriage. Despite greater residential independence and similar rates of enrollment in postsecondary schools, young women were less likely than young men to fit the life profiles characterized by the greatest independence, largely because they were not engaged full time in independent activities outside the home.

The frequency with which young women with disabilities were mothers in their early years after leaving school—particularly single mothers—is cause for concern. Why were they more likely than other young women to be mothers at such an early age? If they were pregnant by choice, why were other options, such as further schooling or employment, not seen as more attractive or within reach? If not by choice, why did young women with disabilities not have the knowledge and support to avoid pregnancy? If we look back at the school programs provided, were females with disabilities as likely as other women students to receive information on sexuality? If sex education was routinely part of regular biology classes, for example, and students with disabilities were not enrolled in those classes, were they provided similar information in other ways? Or did students with disabilities forfeit exposure to sexuality issues and related health topics as a result of their special education placements? In an era in which sexual activity risks exposure to AIDS, are students with disabilities also forfeiting information they may need to protect themselves from that danger?

There also is concern for the future of young mothers with disabilities and their children. We know that youth with disabilities, compared with the general population of youth, came from households that were disproportionately poor and headed by single parents (Marder and Cox, 1991). In this report, we may see the beginning of another generation of children disproportionately from single-parent families. The challenges of disability and single parenting also may put future economic independence out of reach for many young mothers with disabilities and threaten the futures of their children.

Ethnic Differences in Outcomes

Although minority youth experienced gains in many postschool outcomes, the gap between white and minority youth on measures of effective transitions that was observed in the early years after high school was not reduced appreciably in the subsequent 3 years. Contrasts between the experiences of white and black youth will illustrate this pattern.

Black youth experienced the largest gain in employment of youth in any ethnic group—22 percentage points. However, even with their smaller 8 percentage point increase, white youth were significantly more likely to be working in competitive paid jobs 3 to 5 years after high school than were blacks (62% vs. 47%). Further, white youth who were working showed a significant increase in wages that was not demonstrated by black youth, perhaps because many black youth came into the job market later.

In the social arena, youth with different ethnic backgrounds had quite similar patterns of social involvement with friends and family. They were about equally likely to be parents, but black youth were significantly less likely than white youth to be married. The difference in marriage rates is largely among young women; 7% of black women with disabilities were married, compared with 39% of young white women with disabilities. The majority of single mothers with disabilities were minority women.

Because marriage and employment both were highly related to living independently, it is not surprising that in the residential domain, white youth were more likely than black youth to be independent. Looking at life profiles as overall measures of independence, white youth were more likely to fit the profile characterizing the greatest degree of independence; black youth were more likely than whites to be institutionalized, largely because of their higher rate of arrest and incarceration.

These findings suggest that minority status may present further obstacles to successful transitions beyond those that youth experience because of disability alone. Because minority status and poverty are so often intertwined (Marder and Cox, 1991), the precise nature of the obstacles posed for minority youth are not clear. However, it is clear that minority youth are in particular need of better skills or strategies with which to surmount those obstacles. Programs that attend to the difficulties of disability but that do not attend to the difficulties of poverty and minority status may ill equip minority youth with disabilities to succeed as they move into adulthood. Mandates in the Individuals with Disabilities Education Act (P.L. 101-476) to address issues of identifying, evaluating, and serving children and youth with disabilities from minority backgrounds may draw the attention of educators and service providers to their unique combination of needs.

High School Graduation: A Firm Foundation

One goal of the current national education strategy (U.S. Department of Education, 1991) is to increase the proportion of youth in this country who graduate from high school. This goal presumes that graduation produces benefits for those obtaining the diploma. In the context of youth with disabilities, this presumption appeared accurate in the first 2 years after secondary school. As we have learned more about postschool outcomes in the ensuing 3 years, the importance of high school graduation is even more compelling.

In the early postschool years, graduates were more likely than dropouts to be employed (D'Amico, 1991), even when differences between youth in their disability, demographic, and household characteristics were controlled. Graduates were much less likely to be married in the first 2 years after secondary school than were dropouts, particularly among young women.

They also were less likely than dropouts to have been arrested. In the area of postsecondary education, too, graduates were clearly distinguishable from other youth; having succeeded in secondary school to the point of graduation, they were more likely than others to go on to all forms of postsecondary schools, particularly 4-year colleges (Butler-Nalin and Wagner, 1991).

With the passage of time, the advantages of completing secondary school become even more apparent. Graduates experienced the steepest rise in most employment indicators over time; those who dropped out or aged out of school showed no significant increase in employment overall or in full-time employment. Three to 5 years after leaving secondary school, 65% of graduates were working in competitive paid jobs, compared with 47% of dropouts and 37% of youth who aged out of school.

Graduates continued to access postsecondary education in the ensuing years at rates beyond those of youth who dropped out or aged out of school, so that when they had been out of secondary school 3 to 5 years, 37% of graduates had been postsecondary students at some time since leaving high school, compared with 11% and 18% of those who dropped out or aged out, respectively. At that time, 17% of graduates had earned postsecondary degrees, licenses, or certificates, and 10% were continuing to work toward them. With those credentials, the growing gap between graduates and other youth, favoring graduates, promises to widen even further in the future.

In the residential and social arenas, too, graduates were experiencing significantly different patterns of outcomes relative to other youth. For example, graduates saw a steep increase in the frequency of marriage, with its attendant increase in the rate at which youth were living independently. With these steep gains, 3 to 5 years after high school the initial higher level of independent living among dropouts had dissipated. Despite the fact that graduates and dropouts were about equally likely to be married, graduates were much less likely to be parents, with the concomitant demand children place on the emotional and financial resources of parents.

Graduates also were showing signs of better citizenship than were other youth. Three to 5 years after secondary school, they were more likely than other youth to be registered to vote and were significantly less likely than dropouts to have been arrested.

With these findings regarding the emerging gains achieved by graduates with disabilities relative to their peers who dropped out or aged out of school, it is clear that it pays to graduate. The AMERICA 2000 goal of increased high school graduation can and should apply to youth with disabilities because they have much to gain from a completed high school education. But just over half of youth with disabilities did graduate—more than one-third dropped out; 8% stayed in secondary school until they reached the age limit for secondary education. How can policymakers, educators, parents, and youth reduce the odds of dropping out for students with disabilities? What helps?

The relationship between school completion and characteristics of youths' schools and school programs has been the focus of past NLTS work. NLTS research to date suggests that there are strong relationships between school persistence and school achievement (Wagner, 1991a). If school is a place where students are succeeding, they are much more likely to remain there. This begs the question, of course, of what helps students succeed.

There are school factors whose presence is associated with a significantly higher likelihood that youth will succeed in school and stay in school (Wagner, 1991a). Students with similar disability, individual, and household characteristics were less likely to fail courses if relatively more of their class time was spent in special education rather than regular education classes. Students who participated in occupationally specific vocational education were significantly less likely to be absent from school, fail their courses, or drop out of school than were students with the same disability and demographic characteristics but who were not vocational students. Students who received help from a tutor, reader, or interpreter were significantly less likely to drop out, controlling for other differences between youth.

We hope to add to these first findings regarding school factors that support school achievement and school completion by continuing to develop a fuller understanding of the broad range of experiences that encompass secondary school programs for students with disabilities (Blackorby, Cameto, Newman, and Wagner, in process). With that understanding, special educators may be able to develop more powerful tools to help their students achieve and complete school and thereby help the nation achieve its goal of higher overall rates of high school graduation.

However, the accompanying caution to this potential for progress is that high school graduation does not inoculate students with disabilities against the effects of those disabilities. Even among high school graduates, those with disabilities were lagging behind their peers in the general population on several important measures of transition success. Even though graduates with disabilities were more likely than other youth with disabilities to go on to postsecondary school, they were significantly less likely than graduates in the general population to do so. Similarly, graduates with disabilities were more successful in finding and keeping relatively better jobs than other youth with disabilities, but their employment rate continued to be significantly below that of youth in the general population. Hence, a high school diploma alone does not mean that graduates with disabilities are playing on a level field relative to their peers without labeled disabilities. They still need specific goals, tools, skills, and strategies for success that recognize and help them accommodate the particular disability-related challenges they face.

A Summing Up

This longitudinal look at the trends in postschool outcomes of youth with disabilities has demonstrated significant achievements for those making the transition from adolescence to young adulthood. However, comparison between outcomes of youth with disabilities and those of youth in the general population also indicates the challenges facing young people with disabilities. Their experiences present challenges to others as well—to policymakers, advocates, educators, service providers, researchers, and parents who are committed to helping youth with disabilities achieve their potential as adults. The effects of disability on young people's lives are unlikely to be eliminated entirely, no matter how intensive the effort; disability implies a reduction in function that may influence the outcomes of individuals for their lifetimes. Yet the ongoing active federal role in legislation and programming for persons with disabilities, illustrated by the Americans with Disabilities Act and the transition initiative in the Individuals with Disabilities Education Act, for example, indicates a commitment at the highest level of government to continued efforts to help persons with disabilities meet the challenges they face.

The NLTS is privileged to have captured something of the experiences of young people with disabilities at this crucial time of transition and to have communicated those experiences to others. It is our hope that with an improved understanding of the dynamic nature of postschool experiences, those who make policy, advocate for and shape legislation, and design and implement programs can approach those activities with a better sense of transition problems and their solutions, a surer idea of targets for change, and a renewed sense of the value of their undertakings.

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Appendix A

BACKGROUND INFORMATION ON THE NLTS SAMPLE

Appendix A

BACKGROUND INFORMATION ON THE NLTS SAMPLE

This appendix provides somewhat greater detail on several methodological aspects of the NLTS, including:

- Sampling of districts, schools, and students.
- Weighting of NLTS data.
- Estimation and use of standard errors.
- Construction of comparison groups from the general population using the National Longitudinal Survey of Youth (U.S. Department of Labor).

The NLTS Sample

The initial NLTS sample was constructed in two stages. A sample of 450 school districts was selected randomly from the universe of approximately 14,000 school districts serving secondary (grade 7 or above) students in special education,* which had been stratified by region of the country, a measure of district wealth involving the proportion of students in poverty (Orshansky percentile), and student enrollment. Because not enough districts agreed to participate, a replacement sample of 178 additional districts was selected. More than 80 state-supported special schools serving secondary-age deaf, blind, and deaf-blind students also were invited to participate in the study. A total of 303 school districts and 22 special schools agreed to have their students selected for the study.

Analysis of the potential bias of the district sample indicated virtually no systematic bias that would have an impact on study results when participating districts were compared to nonparticipants on several characteristics of the students served, participation in Vocational Rehabilitation programs, the extent of school-based and community resources for the disabled, the configuration of other education agencies serving district students, and metropolitan status (see the NLTS document *Report on Sample Design and Limitations, Wave 1 (1987)* for more information on the LEA sample). The one exception was a significant underrepresentation of districts serving grades kindergarten through eight. Many of these districts did not consider themselves as secondary school districts, even though they served grades seven and eight, which are considered secondary grade levels. In addition, bias may exist on factors for which data were not available for such comparisons.

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* The 1983 Quality Education Data, Inc. (QED) database was used to construct the sampling frame. QED is a private nonprofit firm located in Denver, Colorado. Special education cooperatives and other special service units were not sampled directly (83% of special education students are served directly by school districts; Moore et al., 1988). However, instructions to districts for compiling student rosters asked districts to include on their listing any students sent from their district to such cooperatives or special service units. Despite these instructions, some districts may have underreported students served outside the district.

Students were selected from rosters compiled by districts, which were instructed to include all students in special education in the 1985-86 school year who were in grades 7 through 12 or whose birthdays were in 1972 or before, whether or not they were served within the district or outside the district (e.g., in state-supported residential schools). Rosters were stratified into 3 age groups (13 to 15, 16 to 18, over 18) for each of the 11 federal special education disability categories and youth were randomly selected from each age/disability group so that approximately 800 to 1,000 students were selected in each disability category (with the exception of deaf-blind, for which fewer than 100 students were served in the districts and schools included in the sample).

In part because of the time lapse between sample selection and data collection, many students could not be located at the addresses or telephone numbers provided by the schools. Of the 12,833 students selected for the sample, about one-third could not be reached by telephone for the 1987 parent interview. (For more than half of these, addresses and telephone numbers were not provided by the schools/districts from which they were sampled.) This relatively high rate of inability to reach sample members confirmed the importance of including in the NLTS a substudy of nonrespondents to determine whether those who were reached for the telephone interview were a representative sample of the population to which the study was intended to generalize. To identify whether bias existed in the interview sample, interviewers went to 28 school districts with relatively high nonresponse rates to locate and interview in person those who could not be reached by telephone. Of the 554 sought for in-person interviews, 442 were found and interviewed, a response rate of 80%. A comparison of telephone interview respondents with in-person interview respondents showed that the telephone sample underrepresented lower-income households. The sample was reweighted to adjust for that bias, as described in the next section.

Wave 1 Weighting Procedures and the Population to Which Data Generalize

Youth with disabilities for whom data could be gathered were weighted to represent the U.S. population of students in special education in the 1985-86 school year who were in grades 7 through 12 or at least 13 years old. Because it is a sample of students at various ages, the NLTS sample does not generalize to youth who had dropped out of school before that age. For example, the sample of 18-year-olds generalizes to youth who were 18 and still in secondary school in 1985-86, not to all 18-year-olds with disabilities, many of whom may had left school at an earlier age.

In performing sample weighting, three mutually exclusive groups of sample members were distinguished:

(A) Youth whose parents responded to the telephone interview.

(B) Youth whose parents did not respond to the telephone interview but were interviewed in person.

(C) Youth whose parents did not respond to either the telephone or in-person interviews but for whom we obtained a record abstract.

A major concern in weighting was to determine whether there was a nonresponse bias and to calculate the weights in such a way as to minimize that bias. There was a potential for three types of nonresponse bias:*

(1) Bias attributable to the inability to locate respondents because they had moved or had nonworking telephone numbers.

(2) Bias attributable to refusal to complete an interview (only 3% of those available to be interviewed refused).

(3) Bias attributable to circumstances that made it infeasible to locate or process a student's school record.

Of these three types of nonresponse, the first was believed to be the most frequent and to have the greatest influence on the analysis. Type 1 bias also was the only type of nonresponse that could be estimated and corrected.

The magnitude of type 1 nonresponse bias was estimated by comparing responses to items available for the three groups of respondents (after adjusting for differences in the frequency with which youth in different disability categories were selected and differences in the size of the LEAs selected). Group A was wealthier, more highly educated, and less likely to be minority than group B. In addition, group A was more likely to have students who graduated from high school than groups B or C (which had similar dropout rates). Groups A and B were compared on several additional measures for which data were unavailable for group C. The youth described by the two groups were similar on these additional items, including gender, employment status, pay, functional skills, association with a social group, and length of time since leaving school. Adjusting sample weights to eliminate bias in the income distribution eliminated bias in parental educational attainment and ethnic composition, but did not affect differences in dropout rates. Groups B and C were large enough that if they were treated the same as group A in the weighting process, the resulting dropout distribution would be approximately correct.

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* We assumed that nonrespondents who could not be located because LEAs did not provide student names would have chosen to participate at about the same rate as parents in districts in which youth could be identified. The remaining nonrespondents would presumably have been distributed between the three types of nonresponse mentioned above.

Sample weighting involved the following steps:

- Data from the first groups of sample members were used to estimate the income distribution for each disability category that would have been obtained in the absence of type 1 nonresponse bias.
- Respondents from all three groups were combined and weighted up to the universe by disability category. Weights were computed within strata used to select the sample (i.e., LEA size and wealth, student disability category and age).
- Weights from three low-incidence disability categories (deaf, orthopedically impaired, and visually impaired) were adjusted to increase the effective sample size. These adjustments consisted primarily of slightly increasing the weights of students in larger LEAs and decreasing the weights of students in smaller LEAs. Responses before and after these weighting adjustments were nearly identical. In addition, the three deaf/blind youth from medium-size or smaller districts, who had large weights, were removed from the sample to increase the effective sample size. Thus, NLTS results do not represent the very small number of deaf/blind students in medium-size or smaller LEAs.
- The resulting weights were adjusted so that each disability category exhibited the appropriate income distribution estimated in step 1 above. These adjustments were modest (relative to the range of weights within disability category); the weights of the poorest respondents were multiplied by a factor of approximately 1.6 and the weights of the wealthiest respondents were multiplied by a factor of approximately .7.

Estimation of Standard Errors

The NLTS stratified cluster sample introduces design effects that reduce the precision of estimates for a sample of a given size, compared with a simple random sample. The design effects within the NLTS affect the precision of estimates to varying degrees for different subpopulations and different variables. Pseudo-replication is widely accepted as a variance estimation technique in the presence of design effects. However, it is not cost-effective for estimating the standard errors of the thousands of variables and subpopulations tabulated in the numerous NLTS reports and its statistical almanacs. Therefore, pseudo-replication was conducted on a limited number of variables to calibrate a cost-effective approximation formula, using the following procedures:

- A set of 25 variables representing the parent interview, school program survey, and record abstract was identified for the purpose of developing a statistical approximation formula; these included 16 nominal variables and 9 continuous variables.
- Standard errors of the weighted means of the selected variables were estimated in two ways. The first procedure involved pseudo- replication. For each variable, standard errors were calculated for students in each disability category and for the total sample (300 standard errors) using a partially balanced experimental design specifying how youth were to be allocated to 16 half-samples. The sample was split on the basis of the school districts and special schools from which youth originally were sampled. Districts and schools were paired on the basis of enrollment and a measure of poverty, and one member of each pair was assigned to each half-sample. Sample weights were computed for each half-sample as if those in the half-sample were the only study participants.

The following formula was used to estimate the standard error of the mean for youth in all conditions:

$$\text{Standard error} = [(1/16) \sum_i (M_i - M)^2]^{1/2}$$

where M_i is the mean calculated for youth in one of the 16 half- samples), M is the mean response calculated from the full sample, and the summation extends over all 16 half-samples. (Note that responses to questions from the school program survey were attached to the records of students in the responding schools so that means for these items were computed using student weights.)

- The second estimation procedure involved an approximation formula based on an estimate of the effective sample size for each disability category and the total sample. The sampling efficiency (E) for a group was calculated using the following formula:

$$E = M_w^2/(M_w^2+S_w^2)$$

where M_w and S_w are the mean and standard deviation of the student weights over all members of the group. The approximation formula for the standard error of the weighted mean of nominal variables is:

$$\text{Standard error} = [P(1-P)/(E \times N)]^{1/2}$$

where P is the full-sample weighted proportion of "yes" responses to a particular question in the group, N is the unweighted number of "yes" or "no" responses to the question in the group, and E is the sampling efficiency of the group. The approximation formula for the standard error of the mean of a continuous variable is:

$$\text{Standard error} = [S_2/(N \times E)]^{1/2}$$

where S_2 is the variance of responses in the group for the continuous variable (computed with frequencies equal to full-sample weights) and N is the unweighted number of respondents to the question in the group. These formulas were used to compute a total of 300 standard errors for the same variables and groups addressed using pseudo-replication.

- To assess the accuracy of the standard errors produced by these formulas, we used scatter plots to compare them with standard errors produced using pseudo-replication. For both nominal and continuous variables, the approximate best fit was a 45 degree line. That is, on average, the formula based on estimates of effective sample size neither systematically overestimated nor underestimated the standard error obtained using pseudo-replication, arguing for use of the more cost-effective estimation formulas. However, because error remains in the estimates that might result in underestimating the true standard errors in some instances, we took a conservative approach and multiplied the standard errors produced using the estimation formulas by 1.25. The vast majority of the standard errors so obtained were larger than the standard errors obtained by pseudo-replication. Thus, standard errors were calculated using the effective sample size estimation formulas and increased by a factor of 1.25.

Creating Comparison Groups from the General Population of Youth

We have created two comparison groups from the general population of youth to use as benchmarks against which to interpret outcomes of youth with disabilities. The first group is a sample of youth from the general population, based on data from the National Longitudinal Survey of Youth (NLSY, U.S. Department of Labor). This group permits us to identify differences between youth with disabilities and the general population. However, we cannot attribute those differences to the presence of a disability because Chapter 2 has illustrated that youth with disabilities differed from youth in the general population on demographic characteristics that would be expected to influence their outcomes (e.g., gender, ethnicity). Hence, a second comparison group was constructed from the NLSY that has the same distribution as youth with disabilities on important demographic variables. The construction of these two groups is described below.

The NLSY contains data for more than 12,000 noninstitutionalized youth who were between the ages of 13 and 21 in 1979. These youth have been interviewed annually from 1979 to the present concerning a wide variety of topics, including their family background, schooling, employment, marital status, and living arrangements. For the present study, data from the 1979-1983 interviews were used; after those years, youth in the NLSY were generally older than youth in the NLTS.

Because the universe of the NLTS is youth who were in special education programs in 1985-86, while the universe for the NLSY is all youth (regardless of present or past school status), the following steps were taken to achieve comparability. First, only NLSY youth who were currently in school or had been in school during the current or previous academic year were included in the analysis. Second, comparisons were restricted to youth between 15 and 20 years of age. This was done primarily because very few NLSY youth over age 20 met the requirement of having been in secondary school the academic year before the interview. Little is lost by this restriction because the NLTS sample contains very few individuals below the age of 15 and relatively few over age 20.

Thus, we used all the in-school observations and any observations when a person was out of school, but had been in school during the academic year before the interview. There were up to 5 in-school interviews for a given youth. For most people, only one out-of-school observation was included. Two out-of-school interviews could occur if a youth left school during an academic year but before the spring interview. In that case, the interviews of the spring of that academic year and the next spring were included.

NLSY provides sampling weights based on respondents' probability of selection. However, our use of multiple observations per respondent for many analyses resulted in older youth being overrepresented. We corrected this bias by multiplying each individual's weight by:

$$\frac{\text{Weighted N of individuals of the youth's age in 1980}}{\text{Weighted N of the youth's age for all observations in the sample.}}$$

For analyses that used multiple observations, this weight was used. For analyses that used one observation only (for instance, data on arrests came only from the 1980 interview), the original weight supplied by the NLSY was used.

As indicated above, youth with disabilities differ in several demographic characteristics from the general population of youth. The comparison group we constructed to "hold constant" these differences was formed by weighting the NLSY data to match the distribution of selected demographic characteristics of youth with disabilities. Using these weights, the comparison population has the same distributions of gender, ethnicity, and head of household's education as the population of youth with disabilities.

Despite our adjustments, some important noncomparabilities remain. They are as follows:

- Respondent. NLTS interviewed parents, while NLSY interviewed youth. The extent to which parents and youth differ in reporting youths' experiences is not known.
- Month of interview. The modal month of interview was August for the NLTS and March for the NLSY. The two outcomes most affected by differences in timing of interview are school completion status and employment status. Fortunately, NLSY data included youths' employment status as of August 15, and we were able to construct a variable on school completion status as of the summer after the interview. However, most data on occupational distributions, part-time/full-time status, and wages come from the summer for NLTS youth and the spring for NLSY youth.
- Year of interview. NLTS interviews took place in 1987, while NLSY data come from 1979-1982. Readers should be sensitive to the fact that period effects may have influenced some variables. We adjusted for period effects for only one variable, wages, by operationalizing wages as the percent of the population earning the minimum wage or less.
- Time out of school. The most important consequence of differences in the month of interview affect analyses of data for youth who were no longer in secondary school. More than three-fourths (76%) of NLSY secondary school graduates in the sample (weighted) had been out of school between 9 and 11 months when they were interviewed. In contrast, about 56% of NLTS graduates had been out of school about 2 months, and about 44% had been out of school about 14 months.
- Unmeasured or uncontrolled demographic differences. The groups may continue to differ in unmeasured ways or in ways that were not adjusted for in the reweighting. For example, we were not able to weight the comparison population by urbanicity, despite knowing that NLTS and NLSY samples differ significantly on this factor, because of noncomparability of the measures of urbanicity in the two data sets.
- Exact wording of questions and response categories. Wording of questions and response categories differed between the NLTS and the NLSY.

This latter point underscores the importance of readers being aware of the construction of variables used in the comparisons between the NLTS and the NLSY. Appendix C contains the specifications of variables constructed using NLTS data. NLSY items used here include:

- Ethnicity. If the youth indicated more than one ethnicity, the ethnicity the youth reported he identified most closely with was used. Questions: "*What is your origin or descent?*" and "*You said that your origin or descent was [respondent's answers to prior questions]. Which one do you feel closest to?*"
- Head of household's education. Taken from 1979 interview questions: "*What is the highest grade or year of regular school that your father ever completed?*" and "*What is the highest grade or year of regular school that your mother ever completed?*" Responses for father's education were used unless father's education was missing or the father did not reside in the youth's household, but the mother did.
- Secondary school enrollment status. From NLSY's constructed variable, enrollment status as of May 1 survey year, which is based primarily on the questions, "*Are you currently attending or enrolled in a regular school, that is, in an elementary school, a middle school, a high school, a college, or a graduate school?*" and "*What grade or year of school is that?*"
- Secondary school completion status. Based on youth's answers to:

  "Are you currently attending or enrolled in a regular school, that is, in an elementary school, a middle school, a high school, a college, or a graduate school?"

  "What is the highest grade of school that you have ever attended?"

  "Do you have a high school diploma or have you ever passed a high school equivalency or GED test?"

  "Which do you have, a high school diploma or a GED?"

  The value "dropped out" was assigned if the youth indicated that he/she was not currently enrolled in school, and had completed fewer than 12 years of school or did not have a high school diploma. The value "graduated" was assigned if the youth indicated he or she had a high school diploma or was enrolled in college as of May 1 of the survey.
- Youth got GED. From youth's answer to:

  "Do you have a high school diploma or have you ever passed a high school equivalency or GED test?" and

  "Which do you have, a high school diploma or a GED?"
- Youth attended college. Constructed from the variable "*What is the highest grade of regular school you have ever attended?*"
- Youth attended postsecondary vocational school. Youth indicated that he/she had had training for one month or more at a business college, nursing program, vocational-technical institute, barber or beauty college, or flight school.

- Employment status. From NLSY's Employment Status Recode, a widely used variable derived from answers to several standard CPS questions whose categories are working, with job but not at work, unemployed, keeping house, going to school, unable to work, other, in active forces. Although the algorithm for constructing the variable is quite complex, the main questions from which the variable is derived are:

  "What were you doing most of last week—working, going to school, or something else?"

  "Did you do any work at all last week, not counting work around the house?"

  "Did you have a job or business from which your were temporarily absent or on layoff last week?"

- Occupation. Youth's answer to, "*What kind of work were you doing for this job?"*
- Part time/full time status. *"Do you usually work 35 hours or more a week at this job?"*
- Marital status of respondent. From youth's response to, *"Are you presently married, widowed, divorced, separated, or have you never been married?"* and a question regarding whether the youth was living with person of the opposite sex as a partner.
- Whether youth has ever been arrested. (From 1980 NLSY data only). Youth's answer to, "*Not counting minor traffic offenses, have you ever been booked or charged for breaking a law, either by the police or by someone connected with the courts?"*
- Independent living. From NLSY's household record type of residence R is living in. Indicates whether respondent was living with parents; in dorm, fraternity, sorority; hospital; jail; own dwelling unit; orphanage; religious institution; or other institutional quarters. Youth was considered to be living independently if he/she lived in his/her own dwelling unit or in a dorm/fraternity/sorority.

Appendix B

OTHER PRODUCTS AVAILABLE FROM THE NLTS

Appendix B

OTHER PRODUCTS AVAILABLE FROM THE NLTS

The National Longitudinal Transition Study of Special Education Students Statistical Almanacs:

- Volume 1: Overview
- Volume 2: Youth Categorized as Learning Disabled
- Volume 3: Youth Categorized as Emotionally Disturbed
- Volume 4: Youth Categorized as Speech Impaired
- Volume 5: Youth Categorized as Mentally Retarded
- Volume 6: Youth Categorized as Visually Impaired
- Volume 7: Youth Categorized as Hearing Impaired
- Volume 8: Youth Categorized as Orthopedically Impaired
- Volume 9: Youth Categorized as Other Health Impaired
- Volume 10: Youth Categorized as Multiply Handicapped

The National Longitudinal Transition Study of Special Education Students: Report on Procedures for the Second Wave of Data Collection (1990)

Youth Classified as Seriously Emotionally Disturbed: How Well Are They Being Served?

Hispanic Secondary School Students with Disabilities: How Are They Doing?

Being Female—A Secondary Disability? Gender Differences in the Transition Experiences of Young People with Disabilities

How Well Are Youth with Disabilities Really Doing? A Comparison of Youth with Disabilities and Youth in General

The National Longitudinal Transition Study of Special Education Students: Report on Sample Design and Limitations, Wave 1 (1987)

The National Longitudinal Transition Study of Special Education Students: Data Tape and Documentation

Parents' Reports of Students' Involvement with Vocational Rehabilitation Agencies in the First Years After Secondary School: A Report from the National Longitudinal Study of Special Education Students

Dropouts with Disabilities: What Do We Know? What Can We Do?

Youth with Disabilities: How Are They Doing? The First Comprehensive Report from the National Longitudinal Transition Study of Special Education Students

The Early Work Experiences of Youth with Disabilities: Trends in Employment Rates and Job Characteristics

The Relationship Between Social Activities and School Performance for Secondary Students with Learning Disabilities

The Benefits Associated with Secondary Vocational Education for Young People with Disabilities

The National Longitudinal Transition Study of Special Education Students: Report on Procedures for the First Wave of Data Collection (1987)

The School Programs and School Performance of Secondary Students Classified as Learning Disabled: Findings from the National Longitudinal Transition Study of Special Education Students

The Transition Experiences of Youth with Disabilities: A Report from the National Longitudinal Study of Special Education Students

Making the Transition: An Explanatory Model of Special Education Students' Participation in Postsecondary Education

Educational Programs and Achievements of Secondary Special Education Students: Findings from the National Longitudinal Transition Study

Dropouts: The Relationship of Student Characteristics, Behaviors, and Performance for Special Education Students

For prices and ordering information, please write:

National Longitudinal Transition Study
Room BS136
SRI International
333 Ravenswood Avenue
Menlo Park, CA 94025

Appendix C

VARIABLE SPECIFICATIONS

Appendix C

VARIABLE SPECIFICATIONS

This appendix describes the construction of variables used in the analyses presented in this volume on trends in postschool outcomes. The discussion is organized according to the domains related to trends in postschool outcomes as presented in Chapter 1. Categories of variables include:

- Individual characteristics.
- Secondary school outcomes.
- Postsecondary experiences and outcomes.

Each variable is defined and its data source(s) specified. Issues related to reliability or interpretation for relevant variables are discussed.

Individual Characteristics

Disability Category

For all crosstabulations throughout this report, youth are assigned to a disability category based on the primary disability designated by each youth's school or district in the 1985-86 school year. This designation of youths' disabilities, which was the basis of their being sampled for the NLTS, came from rosters of all secondary students in special education submitted by districts included in the study. The primary disability category of each student was designated by the district on the roster. Because we have relied on category assignments made by schools and districts, NLTS data should not be interpreted as describing youth who truly had a particular disability, but rather as describing youth who were categorized as having that disability by their school or district. Hence, descriptive data are nationally generalizable to youth who were classified as having a particular disability in the 1985-86 school year.

Functional Mental Skills

In 1987, parents were asked, *How well does (NAME) do each of the following things on his/her own, without help? Look up telephone numbers in the phone book and use the phone; tell time on a clock with hands; read and understand common signs like STOP, MEN, WOMEN, or DANGER; count change.* For each task*: Would you say very well, pretty well, not very well, or not at all well?*

For analyses in this report, a scale was formed by assigning a value of 4 to very well, 3 to pretty well, 2 to not very well and 1 to not at all well. Scores were summed for the four tasks to create a scale ranging from 4 to 16. This scale was then further broken down into three categories: low (4 to 8), medium (9 to 14), and high (15 or 16). Youth who were missing one or more of the items that make up the scale were omitted from crosstabulations using the scale.

Self-Care Skills

In 1987, parents were asked, *How well does (NAME) do each of the following things on his/her own, without help: dress himself/herself completely; feed himself/herself completely; get places outside the home, like to school, to a nearby store or park, or to a neighbor's house. Would you say very well, pretty well, not very well, or not at all well?* .

For analyses in this report, a scale was formed by assigning a value of 4 to very well, 3 to pretty well, 2 to not very well, and 1 to not at all well. Scores were summed for the three tasks to create a scale ranging from 3 to 12. This scale was then further broken down into three categories: low (3 to 6), medium (7 to 10), and high (11 or 12).

Youth who were missing one or more of the items that make up the scale were omitted from crosstabulations using the scale. Further, this question was asked only of parents of youth who were classified by their school districts as mentally retarded, visually impaired, deaf, orthopedically impaired, other health impaired, multiply handicapped, or deaf/blind. They were not asked of parents of youth who were classified as learning disabled, emotionally disturbed, speech impaired, or hard of hearing, with no other disabilities because such disabilities were assumed not to interfere in most cases with the performance of the basic self-care skills being investigated. Youth in these categories were assigned a value corresponding to very well for each item, which would sum to a score of 12 (high) on the corresponding scale. If the skills of youth in these categories actually were lower, the reported self-care skills scores overestimate abilities.

Community Living Skills

In 1990, parents were asked, *How well could (NAME) do each of the following things on his/her own, without help: Go to a library or community swimming pool; use public transportation to get around town, like a bus or taxi; buy his/her own clothes at a store; arrange a plane or train trip to go out of town.* For each task: *Could he/she do it very well, pretty well, not very well, or not at all well?*

For analyses in this report, a scale was formed by assigning a value of 4 to very well, 3 to pretty well, 2 to not very well, and 1 to not at all well. Scores were summed for the four tasks to create a scale ranging from 4 to 16. This scale was then further broken down into four categories: low (4 to 6), medium low (7 to 11), medium high (12 to 15), and high (16). Youth who were missing one or more of the items that make up the scale were omitted from crosstabulations using the scale. (See Table C-1.)

Table C-1

COMMUNITY LIVING SKILLS OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES

	Percent Receiving a Score[a] Rated:				
	Low	Medium/Low	Medium/High	High	n
All conditions	5.7	13.9	35.5	44.9	1,741
	(1.4)	(2.0)	(2.8)	(2.9)	
Learning disabled	.2	5.8	38.4	55.5	310
	(.5)	(2.2)	(4.6)	(4.7)	
Emotionally disturbed	2.8	13.5	34.6	49.0	190
	(1.9)	(4.0)	(5.6)	(5.9)	
Speech impaired	3.3	8.2	25.7	62.8	119
	(2.7)	(4.2)	(6.6)	(7.3)	
Mentally retarded	14.8	28.8	31.5	24.9	253
	(3.8)	(4.8)	(4.9)	(4.6)	
Visually impaired	8.1	25.4	39.0	27.5	161
	(3.5)	(5.6)	(6.2)	(5.7)	
Hard of hearing	4.5	13.6	39.0	42.9	125
	(3.4)	(5.5)	(7.9)	(8.0)	
Deaf	4.0	11.4	47.7	36.9	228
	(2.1)	(3.4)	(5.4)	(5.2)	
Orthopedically impaired	13.5	27.4	40.9	18.2	144
	(4.9)	(6.4)	(7.1)	(5.6)	
Other health impaired	12.0	9.4	29.3	49.3	81
	(6.2)	(5.5)	(8.7)	(9.5)	
Multiply handicapped	52.8	14.3	16.9	16.0	99
	(8.9)	(6.2)	(6.7)	(6.5)	
Deaf/blind	54.7	24.2	17.9	3.3	31
	(12.1)	(10.4)	(9.3)	(4.3)	

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[a] Scores to 4 to 6 earned a low on the scale.
Scores of 7 to 11 earned a medium/low on the scale.
Scores of 12 to 15 earned a medium/high on the scale.
A score of 16 earned a high on the scale.

Standard errors are in parentheses.

Demographic Characteristics

The youth's gender was recorded from parent interviews in 1987 in response to the question, *Is (NAME) male or female?* Ethnic background was determined in the 1987 parent interview from responses to the question, *What is (NAME)'s ethnic background?* Response categories included: black (not Hispanic), white (not Hispanic), Hispanic, American Indian or Alaskan Native, Asian or Pacific Islander, or other. In crosstabulations in this report, the latter three categories were combined into a single "all others" category.

Secondary School Outcomes

Grade Performance

Grades (following the conventional A, B, C format) in secondary school were abstracted from student records in 1987. For this report, grade performance was analyzed via a dichotomous variable indicating whether a student had failed any course during the most recent school year. The dichotomous variable was calculated for students receiving any course grades; a code of 1 was assigned if a student had failed any course (i.e. received an F as a course grade for either a single semester or a full year) and 0 if no course had been failed.

There are two reasons to suspect that the grades abstracted from student records may overestimate grade performance. First, not all students received grades. Understanding which students received grades and which did not is important in interpreting course grades.

NLTS data reveal that 11% of students with disabilities did not receive grades in any courses in their most recent year in secondary school. As was shown in the first NLTS report, the receipt of grades is strongly associated with the nature and severity of students' disabilities. For example, 55% of students with low functional mental skills did not receive grades, compared with only 4% of students with high functional mental skills. Hence, course grades "cream" the special education student population by eliminating students with more severe disabilities and lower functional skills. Because students who did receive grades were the more capable students in special education, we would expect grades to be generally higher and more similar to those of students in regular education than would be the case if all students in special education were considered.

Second, there may be a reporting bias in grade data. For students who were taking a single course for two semesters and received two different grades, record abstractors were instructed to record the more recent grade. However, when transcripts were obtained for a subsample of students and compared with grades recorded by abstractors, 34% of the 157 cases reviewed showed discrepancies between transcript grades and record abstract grades. The majority of these cases involved abstractors' reporting the higher of two grades received for two-semester courses, rather than the most recent grade. Generally only one course per student was involved in a grade discrepancy, and the grade change was virtually always only 1 grade point (i.e., a B reported as the higher grade when a C was the most recent grade). Only if this over reporting involved reporting a higher grade when one of the grades was a failure would the grade failure variable used in this report be underestimated. In addition, in a handful of cases, failed courses were not included on the record abstract form because students received no credit for them. Hence, failure rates may have been marginally higher than those reported here.

School Completion Status

The school completion status variable has four categories: graduated, dropped out, aged out, and suspended/expelled. An exiter's completion status was derived originally from the 1987 parent interview and/or the school record abstract from 1985-86. Parents who said youth were no longer in secondary school were asked, *Did (NAME) graduate, voluntarily leave school, was he/she suspended or expelled or is he/she older than the school age limit?*

The school record abstract item asked: *What was this student's status at the end of the school year?* Possible responses included:

- Graduated
- Exceeded the school age limit
- Completed the school year and promoted to the next grade level
- Completed the school year but not promoted to the next grade level
- Dropped out
- Permanently expelled
- Transferred/moved to another school
- Incarcerated
- Institutionalized due to handicap
- Other (specify)
- Don't know.

For 30% of cases, school completion status was based on the parent interview alone. For 16% of cases, values were based on the school record abstract alone; the school abstract response was used by collapsing responses into the four completion status categories as follows:

School Completion Status	Record Abstract Response
Graduated	Graduated
Aged Out	Exceeded the school age limit
Dropped out/left	Dropped out Withdrew Institutionalized Incarcerated Other
Suspended/expelled	Permanently expelled

Among the 55% of cases in which both sources were available, the sources agreed for 78% of the cases. For the remaining cases, the following discrepancies were noted and resolutions made:

- In cases in which the school reported that the youth transferred, moved, or withdrew, the parent report was the basis for categorization, assuming the parent knew the final status of the youth after a move, transfer, or withdrawal from a given school.
- Schools were considered the best source of information if a discrepancy involved whether the youth graduated vs. aged out, assuming the parent was less clear than the school about age limits for service and what constituted graduation.
- The parent was considered the best source of information in cases in which the school indicated that the youth had completed the school year, but the parent reported a more final disposition that could have occurred because of school work done in the summer (i.e., resulting in graduation) or because of decisions made in the summer not to return in the fall (i.e., dropping out). Similarly, parents' reports of graduation were accepted when the school reported that the youth dropped out or was suspended because further school work in the summer could have resulted in graduation by the time of the interview. Parent reports of a more final status (e.g., dropping out) also were accepted when the school reported what was considered an intermediate status, such as incarceration or institutionalization.
- Youth were categorized as dropouts on the basis of the school report when the parent contended that the youth exceeded the age limit but the youth was not old enough to have done so, or if the parent reported that the youth had been suspended.

As reported in Chapter 3, about 3% of youth were dropouts as of 1987, but were determined from responses to the 1990 parent/youth interview or from school records obtained after 1987 to have become graduates, either through returning to secondary school or by getting a GED certificate. These youth were included among the dropouts in 1987 and among graduates in 1990.

Postsecondary Experiences and Outcomes

Postsecondary Education

Parent interviews in 1987 and parent/youth interviews in 1990 were the sources of all information about postsecondary education. Current enrollment, enrollment since high school, and enrollment within the previous 12 months were measured for the following: GED programs, postsecondary vocational/trade schools, 2-year or junior colleges, and 4-year colleges or universities. For each kind of school or program, respondents were asked the following question about out-of-school youth: *Has (NAME)/Have you been in school at all since he/she/you left high school?*

If youth had been enrolled in courses to earn a high school diploma, respondents were asked whether the youth had gotten a diploma or degree from that coursework.

If respondents reported that youth had attended the other kinds of postsecondary schools, the following questions were asked about each kind of school attended:

> *About how many courses has (NAME)/have you taken in the past 12 months (from the kind of school)?*
>
> *Has (NAME)/Have you gotten a diploma, certificate, or license from this work?*
>
> *Has (NAME)/Have you gone (to kind of school) mostly full time or part time?* (If they asked, respondents were told that *Full time is taking a full course load of 12 credits or more at a time or being in class at least 12 hours per week.*)

If respondents reported that the youth had attended a postsecondary vocational school or a 2-year or 4-year college, they were asked:

> *About how well has (NAME)/have you done in his/her/your classes or programs in the past 12 months? Would you say he/she/you has/have gotten:*
>
> *Mostly As (3.75 to 4.00 grade point average)*
> *About half As and half Bs (3.25 to 3.74 GPA)*
> *Mostly Bs (2.75 to 3.24 GPA)*
> *About half Bs and half Cs (2.25 to 2.74 GPA)*
> *Mostly Cs (1.75 to 2.24 GPA)*
> *About half Cs and half Ds (1.25 to 1.74 GPA)*
> *Mostly Ds or below (less than 1.25 GPA)*
> *No grades, courses not graded.*

If youth were reported to have attended a 2-year college, the respondents also were asked, *Has (NAME)/Have you taken mostly vocational courses to train him/her/you for a job, like auto repair or office work, or has (NAME)/have you taken mostly academic courses, like English or science?*

Employment Rates

Analyses of postschool employment of youth with disabilities included several variables, including whether the youth had any current job, any job in the preceding year, or any job since high school. To measure whether the youth had any paid job, youth who had been in secondary school in the preceding year and who had responded that they had had a work-study job in the preceding year, or their parents, were asked, *Did (NAME)/you get paid for this work?* All parents/youth were asked, *Does (NAME)/Do you now do any work for which he/she/you get(s) paid, other than (his/her/your work-study job or) work around the house?* (words inserted for those with paid work-study jobs). All students currently employed in a work-study or other job were coded as having had a job in the preceding year. In addition, respondents answering no to the question on current paid jobs were asked, *Has (NAME)/Have you done any work for pay in the past 12 months, other than (his/her/your work study job or)* *work around the house?* A dichotomous variable was created and coded 1 for positive responses and 0 for negative responses.

Job Satisfaction and Future Expectations

In 1990, youth were asked a series of questions regarding their subjective experience of their job. The following questions could be answered with yes, no, or don't know:

> *Do you think*
>
> > *You are pretty well paid?*
> > *You are treated pretty well by others at your job?*
> > *In your job, you have chances to work your way up?*

In addition, youth were asked, *Do you usually like this job very much, like it fairly well, not like it much, or not like it at all?* Four response categories captured the response options given the youth.

Job Profiles

Parents in 1987 and parents/youth in 1990 were the sources of information on the types of jobs held by working youth, hours worked, wages earned, and benefits accrued.

Parents/youth who reported that students currently had a paid job were asked, what kind of job the youth had. Interviewers probed to obtain information on both the kind of work performed and the kind of place in which the work was done (e.g., clerk at a clothing store). Verbatim responses were recorded by interviewers and later coded into job categories using the Bureau of the Census Occupational Classification Code system (U.S. Bureau of the Census, 1970).

Parents/youth also were asked, *About how many hours a week does (NAME)/do you usually work at this job?* Wages earned at currently held paid jobs were measured using responses to the following question: *About what is his/her/your pay for this work?* If respondents requested clarification, they were told we were interested in pay before taxes or deductions. Respondents could report wages earned per hour, per week, per month, or per year. Wages reported other than hourly were converted to hourly wage by calculating a weekly wage and dividing it by the average number of hours worked per week.

The receipt of benefits as a part of compensation was assessed in the 1990 interview only by parent/youth responses to the question, *As part of his/her/your job, does (NAME)/do you receive paid sick or vacation leave?* Responses were coded into a dichotomous 0 (received no benefits) or 1 (received benefits).

The rate at which youth had paid jobs in sheltered workshops was measured by asking about working youth, *Does (NAME)/Do you do this work at a sheltered workshop, that is, a* *place where most of the other workers are disabled?* Tenure of current jobs was determined for all youth who were reported as currently employed by asking, *How long has (NAME)/have you had this job?* All responses were converted to the number of months the youth had had the job. In the 1990 interview only, the ways youth found work were measured by asking, *Did (NAME)/you find this job him/her/yourself or did s/he/you have help--like from a temporary agency or someone you know?* If youth had help, respondents were asked, *Who helped (NAME)/you? Was it someone in an employment agency or other program, a teacher or someone at a school, a family member, or a friend or someone else you know?*

Finally, for all youth who had held a job in the preceding year but were not employed at the time of the interview, the means by which the youth left the job was determined by asking, *Why did (NAME)/you leave that job? Did he/she/you quit, was he/she/were you fired, was he/she/were you laid off, or was it a temporary job that ended?* Four response categories captured these response options.

Job Search

For youth who were not currently employed at the time of the 1990 interview, parents/youth were asked, *Is (NAME)/Are you looking for a job for pay?* If youth were looking for work, respondents were asked, *About how long has (NAME)/have you been looking for work?* Respondents could respond with the number of days, weeks, months, or years, or they could give a beginning date for the job search. All responses were converted to months. If youth were job seekers, respondents were asked, *What has (NAME)/have you done in the past month to find a job?* Multiple responses were permitted and were coded in the following categories:

- Checked with a state or private employment agency
- Checked with a military recruiter
- Checked with an employer directly
- Checked with family members
- Checked with friends or acquaintances
- Placed or answered ads
- Looked in the newspaper
- Used a school employment service
- Applied for jobs
- Other
- Nothing.

If the response to this item was "nothing," the youth was not considered to be looking for work.

If the youth was not a job seeker, the respondent was asked, *Why did (NAME)/you decide not to look for work?* Multiple responses were permitted and were coded into the following categories:

- Youth didn't want to look/too hard to look
- Is a homemaker/raising a family/working in the home
- Going to school/in a training program
- Doesn't want to work/doesn't need job or money
- Doesn't know how to find a job
- Available jobs aren't worth having/don't interest youth
- Tried to get a job and couldn't/no one will hire youth
- Aren't any jobs available
- Parents don't want youth to work
- Jobs too hard to get to/transportation problems
- Would lose SSI/disability/unemployment/other benefits
- Youth has a job that hasn't started yet/is waiting to hear about a job or program applied for
- Other.

Residential Arrangements

Parents in 1987 and parents/youth in 1990 were asked, *Where does (NAME)/do you live now?* If they asked for clarification, respondents were told *By live, we mean the place (NAME)/you usually spend(s) at least 5 nights a week.* Responses were coded into the following categories:

- With parent/guardian
- Alone
- With a spouse or roommate
- With another family member, other than youth's spouse
- In a residential or boarding school other than a college
- In a college dormitory
- In military housing
- In a supervised group home
- In a mental health facility
- In a hospital/medical facility or institution for the disabled
- In a correctional facility
- Other.

In 1990, if the adult family member that the youth was living with was the respondent, s/he also was asked, *Do you want (NAME) to be living there now, or do you wish s/he could live somewhere else?* If the youth was the respondent and living with a parent or guardian, the youth was asked, *Do you want to be living with your parent or guardian or would you rather be living somewhere else?*

If the youth was not living in a supervised setting currently and had not lived in a supervised setting in the past 12 months, the parent was asked in the 1990 interview, *Since high school, has (NAME) ever lived away from home where s/he was supervised by other adults, such as in a supervised group home?* Parents also were asked, *Has anyone been trying to arrange for (NAME) to live away from home in a supervised group home or board and* *care situation?* If such efforts had been made, the following question was asked: *Is (NAME) on a waiting list for a supervised living arrangement?* These items on supervised living arrangements were not asked if youth were classified as learning disabled, speech impaired, or hard of hearing only.

Stability of residential arrangement was measured by asking parents/youth in 1990, *Has (NAME)/Have you lived anywhere else in the last 12 months?* If the respondent answered positively, he/she was asked, *Where else has (NAME)/have you lived in the past 12 months?* Responses were coded in the same categories as listed above.

Parent expectations regarding future residential independence were measured in 1987 from responses to the following: *How likely to do you think it is that (NAME) eventually will live away from home on his/her own without supervision? Do you think s/he definitely won't, probably won't, probably will, or definitely will?* Four response categories captured the response options. The question was asked only of parents whose children were not living independently already at the time of the 1987 interview.

Personal Independence

In the 1990 interview, parents/youth were asked, *Does (NAME)/Do you have a driver's license?* (See Table C-2.) An additional aspect of independence focused on parental financial support of the youth. Parents/youth were asked, *Does (NAME)/Do you usually get money from family members or guardians for his/her/your living expenses?*

Table C-2

PERCENT OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES HAVING A DRIVER'S LICENSE

	Percent	Standard Error	n
All conditions	59.7	2.9	1,578
Learning disturbed	70.7	4.2	324
Emotionally disabled	55.7	6.0	179
Speech impaired	56.9	7.1	129
Mentally retarded	38.6	5.3	236
Visually impaired	15.7	5.6	106
Hard of hearing	71.6	6.9	141
Deaf	74.0	4.5	244
Orthopedically impaired	43.7	7.4	155
Other health impaired	63.8	9.9	64

Seeing Friends

Parents in 1987 and parents/youth in 1990 were asked, *About how many days a week does (NAME)/do you usually get together socially with friends or family members, other than those s/he/you live(s) with?* (CATEGORIES NOT READ) Responses ranged from never to 6 or 7 days a week. For analyses of social isolation, a dichotomous variable was constructed with youth who saw friends less than once per week being coded as 1 and all others as 0. For analyses of frequency of contact with friends, categories ranged from 1 (once a week) to 4 (6 or 7 days a week).

Group Membership

Parents were asked in 1987 and parents/youth in 1990, *In the past 12 months, has (NAME)/have you belonged to any social or community groups, like a sports team or a church group?* A dichotomous variable was constructed with a code of 1 for yes and 0 for no.

Arrest

Parents were asked in 1987 and parents/youth in 1990: *Has (NAME)/Have you ever been arrested?* A dichotomous variable was constructed with a code of 1 for yes and 0 for no.

Marital Status

Parents were asked in 1987, *What is (NAME's) marital status? Is s/he (READ CATEGORIES)*

- *Engaged*
- *Single, never married*
- *Married or living with someone of the opposite sex*
- *Divorced or separated*
- *Widowed.*

In 1990, parents/youth were asked, *Is (NAME)/Are you (READ CATEGORIES)*, with the response categories being the same as those above.

Social Isolation

A dichotomous variable was constructed that is coded 1 for youth who saw friends less often than weekly, were not group members, and were not married or engaged. Youth who had any of these forms of social involvement were coded 0.

Frequency of Contact with Parents

In 1990, parents only were asked, *About how often do you talk with (NAME) by phone or in person? Do you talk with him/her about every day, a few times a week, about once a week,* *every few weeks, every few months, or less often than that?* In analyses, the last three responses were collapsed into a single category of every few weeks or less often.

Parenthood Status

In 1990 only, parents/youth were asked, *Does (NAME)/Do you have any children?* A dichotomous variable indicates 1 for yes and 0 for no.

Time Use

In 1990, parents/youth were asked, *During the past few weeks, how has (NAME)/have you spent most of his/her/your time?* Multiple open-ended responses were permitted and were coded into the following categories:

1 Worked for pay/military/babysitting for pay
2 Gone to school/training program/studied/college-related activities
3 Raised children/kept house
4 Doing chores/working around the house/farm
5 Looked for work
6 Done volunteer work/on church mission
7 Been in organized program other than school/training/workshop
8 Been in a hospital or institution (not a correctional facility)
9 Been in a correctional facility
10 Going to recreation events/places/church/shopping
11 Playing sports/biking/swimming/running
12 Doing hobbies/crafts/interactive or creative recreation
13 Interacting with friends/talking on phone
14 Interacting with family members
15 Listening to music/watching television or movies/playing games
16 Hanging out/doing nothing/sleeping/drinking/eating/invalid.

For analysis purposes, responses 3 and 4 were combined, as were responses 8 and 9, responses 13 and 14, and responses 15 and 16.

Receipt of Services

In 1990, parents were asked whether youth currently were receiving the following:

> *Any career counseling, help in finding a job, training in job skills, or vocational education.*
>
> *Any instruction in how to do things like manage money, cook, or keep house, or any other life skills training or occupational therapy, not including instruction from family members or friends.*
>
> *Any help from a tutor, a reader to help him/her understand written material, or an interpreter to help him/her communicate.*

Any speech or language therapy.

Any personal counseling or therapy. (If asked, respondents were told, *We mean psychological counseling, mental health services, drug abuse therapy, or group counseling.)*

Any physical therapy, mobility training, or other help with any physical disabilities.

Dichotomous variables were constructed for each item, with a code of 1 indicating receipt and 0 indicating no receipt of the service. Parents were chosen as respondents for these items because pretesting of questions regarding services that were asked of youth demonstrated a high degree of inaccuracy in youth reports.

Engagement During the Past Year

Parent interviews were the source of data for this variable. Only youth out of school at least 1 year at the time of the 1987 interview were included in the calculation of this variable for 1987. Youth out of school 3 to 5 years were included in calculation of the variable for 1990.

Youth are considered productively engaged if they had participated in one or more of the following educational or work activities during the preceding 12 months:

- Received training in specific job skills, like car repair or food service, from someone other than a family member.
- Took courses to earn a high school diploma after leaving secondary school.
- Took courses from a vocational or trade school, a 2-year junior or community college, or a 4-year college or university.
- Worked for pay, other than work around the house.
- Did volunteer work, not including work around the house.

Life Profiles

This construct was developed to capture the general level of independence of youth in three domains: productive engagement outside the home (work, schooling, job training), residential arrangement, and social involvement. The construct involves both the number of domains in which youth participated as well as the level of participation (e.g., full-time vs. part-time work). Because data are somewhat different in 1987 and 1990, definitions of the categories of the profile are slightly different, although the meaning of each category is the same. Further, although a construct that measured current activity was desired, data on involvement in postsecondary education in 1987 was available only for the 12 months preceding the interview. Therefore, data on current activities were used where possible (e.g., employment, residential arrangement), in combination with data on postsecondary education in the preceding year. To the extent that youth had been postsecondary students in the preceding year but were not currently and were not employed or otherwise productively engaged, the construct overestimates the level of independence for those students.

Profile 1—Fully independent in three domains. Youth must meet the following three conditions:

1. Currently competitively employed full time (not sheltered or supported). OR

   A full-time student in a postsecondary school in the preceding year (taking eight or more classes from a vocational school or 2-year or 4-year college, or a combination of the types of schools). OR

   Involved in training in specific job skills full time. (Using 1987 data, full time is at least 1,680 hours in the preceding year. In the 1990 database, hours of training are not available; instead, training must be reported as what the youth spent most of his/her time doing recently.) Training must be provided by a source other than a family member or friend. OR

   A combination of part-time worker, part-time student, and part-time job trainee (fewer than 1,680 hours in the preceding year or not reporting job training as what took most of the youth's time recently); assumed to be equivalent to full-time involvement outside the home.
2. Living independently currently (alone, with a spouse or roommate, in a college dormitory, or in military housing).
3. Not socially isolated (sees friends at least weekly or belongs to a community/social group or is married or engaged).

Profile 2—Fully independent in two domains. Youth must meet two of the following conditions:

1. Currently competitively employed full time (not sheltered or supported). OR

   A full-time student in a postsecondary school in the preceding year (taking eight or more classes from a vocational school or 2-year or 4-year college, or a combination of the types of schools). OR

   Involved in training in specific job skills full time. (Using 1987 data, full time is at least 1,680 hours in the preceding year. In the 1990 database, hours of training are not available; instead, training must be reported as what the youth spent most of his/her time doing recently.) Training must be provided by a source other than a family member or friend. OR

   A combination of part-time worker, part-time student, and part-time job trainee (fewer than 1,680 hours in the preceding year or not reporting job training as what took most of the youth's time recently); assumed to be equivalent to full-time involvement outside the home.
2. Living independently currently (alone, with a spouse or roommate, in a college dormitory, or in military housing).

3. Not socially isolated (sees friends at least weekly or belongs to a community/social group or is married or engaged).

Youth may have been partially involved in a third domain. For example, this profile includes youth who were married (satisfies condition 3) and living with their spouse (satisfies condition 2). They may also have been working or attending school part time, which entails productive engagement outside the home, but not full time, so that condition 1 is not fully met. Similarly, they may have had a supported or sheltered job, which also entails productive engagement, but the job was not fully independent and did not satisfy condition 1.

Profile 3—Fully or partially independent in one domain involving independence outside the family home. Youth must meet one of the following conditions:

1. Currently competitively employed full time or part time (not sheltered or supported). OR

   A full-time student in a vocational school or 2-year or 4-year college in the preceding year (taking eight or more classes from one type of school or a combination of the types of schools), or a part-time 4-year college student. OR

   Involved in training in specific job skills full time. (Using 1987 data, full time is at least 1,680 hours in the preceding year. In the 1990 database, hours of training are not available; instead, training must be reported as what the youth spent most of his/her time doing recently.) Training must be provided by a source other than a family member or friend. OR

   A combination of part-time worker, part-time student, and part-time job trainee (fewer than 1,680 hours in the preceding year or not reporting job training as what took most of the youth's time recently); assumed to be equivalent to full-time involvement outside the home.

2. Living independently currently (alone, with a spouse or roommate, in a college dormitory, or in military housing).

Not being socially isolated is insufficient to qualify for this profile; no stipulation on social involvement is made. Youth may have been socially isolated but independent in the residential or productive engagement domains. Youth also may have been partially involved in a second domain. For example, this profile includes youth who were living alone (satisfies condition 2). They may also have been working or attending school part time, which entails productive engagement outside the home, but not full time, so that condition 1 was not also met. Similarly, they may have had a supported or sheltered job, which also entails productive engagement, but the job was not fully independent and did not satisfy condition 1.

Profile 4--Youth is active in the productive engagement and/or residential domain but not independent in either. Youth meets one or both of the following conditions:

1. Currently involved in volunteer, work-study, sheltered, or supported employment full time or part time. OR

   Part-time student in a vocational or 2-year school in the preceding year (taking fewer than eight classes). OR

   Involved in training in specific job skills part time. (Using 1987 data, part time is fewer than 1,680 hours in the preceding year. In the 1990 database, hours of training are not available; instead, training must not be reported as what the youth spent most of his/her time doing recently.) Training must be provided by a source other than a family member or friend.

2. Living in a residential boarding school (not a college) or a supervised group home.

Youth may or may not have been socially isolated.

Profile 5—Not involved outside the home in the productive engagement or residential domains. Youth must meet the following two conditions:

1. Not involved in any paid or volunteer work, whether competitive, supported, or sheltered.

   Not involved in postsecondary education.

   Not involved in training in specific job skills from a source other than a family member or friend.

2. Living with parents/guardians or other adult family member, not a spouse.

Youth may or may not have been socially isolated.

Profile 6—Youth were institutionalized and not involved in the productive engagement domain. Youth must satisfy the following three conditions:

1. Not involved in any paid or volunteer work, whether competitive, supported, or sheltered.

   Not involved in postsecondary education.

   Not involved in training in specific job skills from a source other than a family member or friend.

2. Living in a hospital, institution for persons with disabilities, or a correctional facility.
3. Not married or engaged.

Youth may or may not have been socially isolated.

REFERENCES

U. S. Bureau of the Census. (1970). Classified index of industries and occupations. Washington, DC: U.S. Government Printing Office.

Appendix D

SUPPLEMENTARY STATISTICAL TABLES

Table D1-1

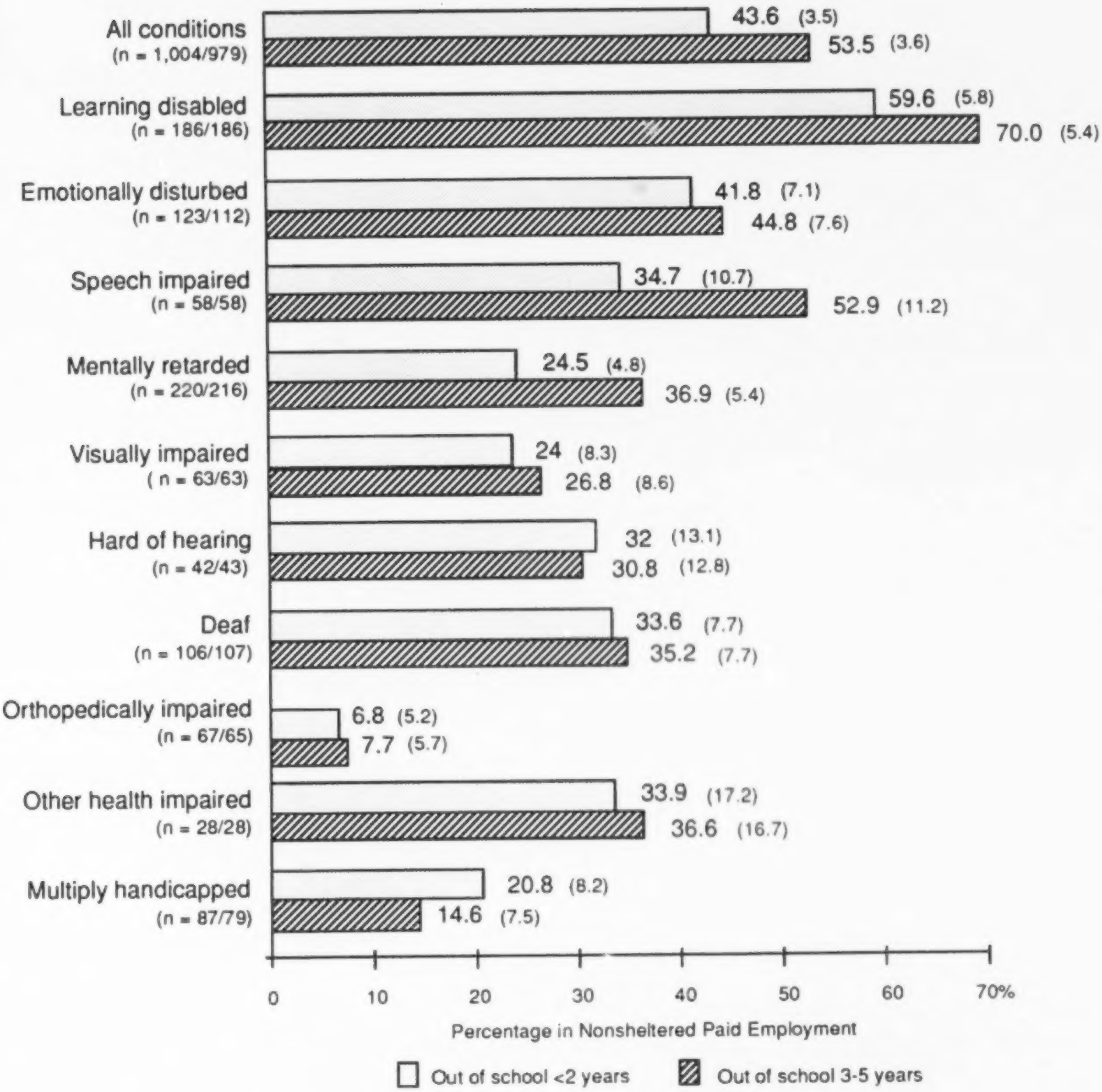
CHARACTERISTICS OF OUT-OF-SCHOOL YOUTH AND ALL YOUTH WITH DISABILITIES WHO WERE SECONDARY SPECIAL EDUCATION STUDENTS IN THE 1985-86 SCHOOL YEAR

Disability Characteristics	Youth Out of School, with 2 Interviews	All Out-of-School Youth	All Youth
Percentage of youth whose primary disability category is:			
Learning disabled	51.7	52.2	55.7
	(2.8)	(2.0)	(1.3)
Emotionally disturbed	12.9	12.2	10.5
	(1.8)	(1.2)	(.8)
Speech impaired	2.7	2.5	3.4
	(.9)	(7)	(.5)
Mentally retarded	26.6	26.5	23.9
	(2.4)	(1.8)	(1.1)
Visually impaired	.7	.7	.7
	(.4)	(.3)	(.2)
Hard of hearing	.8	.9	.9
	(.5)	(.4)	(.2)
Deaf	.9	1.0	.8
	(.5)	(.3)	(.2)
Orthopedically impaired	1.4	1.3	1.2
	(.6)	(.5)	(.3)
Other health impaired	1.2	1.1	1.3
	(.6)	(.4)	(.3)
Multiply handicapped	1.1	1.5	1.6
	(.6)	(.4)	(.3)
Deaf/blind	<.1	<.1	<.1
	(.1)	(<.1)	(<.1)
n	1,989	3,349	8,408
Percentage of youth whose parents report their self-care skills are:			
High (11 or 12)	93.1	91.0	90.4
	(1.4)	(.1)	(.9)
Medium (7 to 10)	5.5	7.0	7.2
	(1.3)	(1.0)	(.7)
Low (3 to 6)	1.4	2.0	2.4
	(.7)	(.6)	(.4)
n	1,892	2,610	7,007
Percentage of youth whose parents report their functional mental skills are:			
High (15 or 16)	60.2	61.6	57.4
	(2.8)	(2.1)	(1.4)
Medium (9 to 14)	33.8	32.0	35.0
	(2.7)	(2.0)	(1.4)
Low (4 to 8)	6.0	6.4	7.6
	(.7)	(.7)	(.8)
n	1,841	2,537	6,862

Table D1-1 (Concluded)

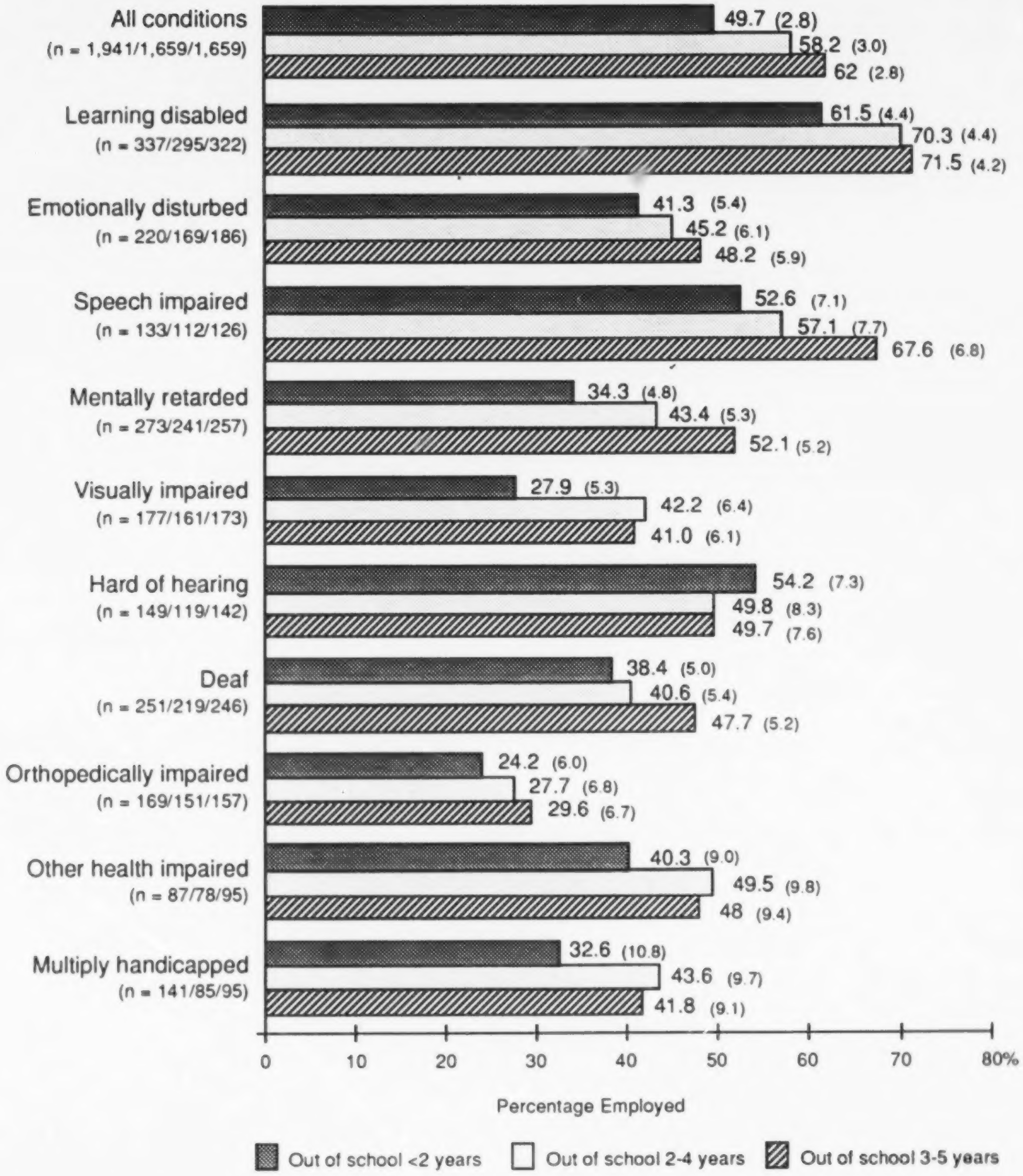
Disability Characteristics	Youth Out of School, with 2 Interviews	All Out-of-School Youth	All Youth
Percentage of youth whose age in 1990 was:			
18 or 19	3.5	7.6	33.1
	(1.1)	(.7)	(.9)
20	11.1	10.1	20.6
	(1.7)	(1.2)	(1.0)
21	19.1	19.1	17.5
	(2.2)	(1.0)	(1.0)
22	29.9	29.0	14.0
	(2.5)	(1.8)	(.9)
23	21.0	19.8	8.9
	(2.2)	(1.6)	(.7)
24	9.4	8.5	3.7
	(1.6)	(.8)	(.5)
25	3.9	3.8	1.5
	(1.1)	(.7)	(.3)
26 or 27	2.1	2.1	.8
	(.8)	(.6)	(.2)
n	1,989	3,349	8,408
Percentage of youth who are male	69.9	69.5	68.5
	(2.5)	(1.9)	(1.2)
n	1,989	3,341	8,392
Percentage of youth who are:			
White	66.8	67.6	65.0
	(2.6)	(2.0)	(1.4)
Black	24.5	22.8	24.2
	(2.4)	(1.9)	(1.2)
Hispanic	6.4	6.6	8.1
	(1.4)	(.7)	(.8)
All other categories	2.3	3.0	1.5
	(.8)	(.5)	(.4)
n	1,966	2,838	7,141
Percentage from single-parent households	38.8	39.3	36.7
	(2.8)	(1.9)	(1.4)
n	1,878	2,580	6,977
Percentage from households with an annual income of less than $25,000	67.6	67.5	67.0
	(2.8)	(2.0)	(1.4)
n	1,749	2,373	6,419
Percentage from households whose head was not a high school graduate	44.6	42.5	40.9
	(2.8)	(2.1)	(1.4)
n	1,871	2,561	6,921

Standard errors are in parentheses.



Standard errors are in parentheses.

FIGURE D4-1 TRENDS IN NONSHELTERED PAID EMPLOYMENT FOR THOSE CONTINUOUSLY OUT OF SCHOOL



Note: Rates are of paid employment in sheltered or nonsheltered settings.
Standard errors are in parentheses.

FIGURE D4-2 TRENDS IN EMPLOYMENT RATES THROUGH THREE TIME POINTS

Table D4-3
TRENDS IN OCCUPATIONS OF OUT-OF-SCHOOL YOUTH WITH COMPETITIVE PAID EMPLOYMENT, BY DISABILITY CATEGORY

OUT < 2 YEARS Occupations	All Conditions	Primary Disability Category Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired
Percentage working as:									
Professional, managerial, and sales workers	4.7	5.8	0.4	3.4	1.9	10.4	0.7	2.2	36.1
	(1.7)	(2.6)	(1.0)	(3.4)	(2.5)	(6.7)	(2.0)	(2.6)	(18.9)
Clerical workers (e.g., stock clerks, secretaries, postal clerks)	15.6	16.2	12.3	23.2	12.9	22	23.3	23.9	14.7
	(2.9)	(4.1)	(5.0)	(7.9)	(6.2)	(9.2)	(9.7)	(7.6)	(13.9)
Craft workers (e.g., apprentices, mechanics)	10.9	12.4	12.1	7.8	4.9	5.8	8.7	17.9	1.6
	(2.5)	(3.6)	(5.0)	(5.0)	(4.0)	(5.2)	(6.5)	(6.8)	(5.0)
Operatives (e.g., packers, service station attendants)	12.0	12.1	10.1	6.5	14.8	8	23.6	9.0	10.0
	(2.6)	(3.6)	(4.6)	(4.6)	(6.6)	(6.0)	(9.7)	(5.1)	(11.8)
Laborers (e.g., lawn mowing, grounds keepers)	24.3	26.9	19.2	21.3	18.7	7.4	8.1	7.7	16.0
	(3.5)	(4.9)	(6.0)	(7.7)	(7.2)	(5.8)	(6.2)	(4.7)	(14.4)
Service workers									
Janitors and maids	4.3	2.2	5.9	8.4	11.2	4.8	1.4	4.9	7
	(1.7)	(1.6)	(3.6)	(5.2)	(5.8)	(4.7)	(2.7)	(3.8)	(10.0)
Food service	16.7	14.9	21.6	20.7	21.2	23	13	20.3	1.6
	(3.0)	(3.9)	(6.3)	(7.6)	(7.6)	(9.3)	(7.7)	(7.1)	(5.0)
Child care, including babysitting	2.5	2	2.1	4.1	4.5	14.5	1.5	1.9	11.9
	(1.3)	(1.5)	(2.2)	(3.7)	(3.9)	(7.8)	(2.8)	(2.4)	(12.7)
Other	8.8	7.5	16.2	4.7	9.9	4	19.7	12.2	9
	(2.3)	(2.9)	(5.6)	(4.0)	(5.5)	(4.3)	(9.1)	(5.8)	(3.6)
n	739	217	105	70	74	48	68	81	32

OUT 3 - 5 YEARS Occupations	All Conditions	Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired
Percentage working as									
Professional, managerial, and sales workers	6.7	7.4	7.3	14.5	5	19.9	11.1	4.5	38.5
	(2.0)	(2.8)	(3.9)	(6.5)	(1.3)	(8.3)	(7.4)	(3.4)	(19.3)
Clerical workers (e.g., stock clerks, secretaries, postal clerks)	9.0	7.1	11.9	25.0	8.5	25.0	27.4	29.4	25.9
	(2.2)	(2.7)	(3.4)	(8.0)	(4.9)	(9.0)	(10.5)	(7.4)	(17.4)
Craft workers (e.g., apprentices, mechanics)	13.3	14.2	19.6	12.0	7.5	2.7	14.7	18.6	1.7
	(2.7)	(3.7)	(5.9)	(6.0)	(4.7)	(3.4)	(8.3)	(6.3)	(5.1)
Operatives (e.g., packers, service station attendants)	19.8	19.9	14.3	10.8	24.6	10.5	4.7	14.5	0
	(3.1)	(4.2)	(5.2)	(5.7)	(7.6)	(6.4)	(5.0)	(5.7)	(.0)
Laborers (e.g., lawn mowing, grounds keepers)	26.4	27.8	27.7	12.0	25.8	12.2	22.6	11.3	8.7
	(3.5)	(4.7)	(6.7)	(6.0)	(7.7)	(6.8)	(9.8)	(5.1)	(11.2)
Service workers									
Janitors and maids	4.5	2.7	3.7	10.1	10.5	1.7	2.6	8.2	4.8
	(1.6)	(1.7)	(2.8)	(5.5)	(5.4)	(2.7)	(3.7)	(4.5)	(8.5)
Food service	10.6	8.4	11.2	8.9	19.6	17.9	9.4	7.7	12.4
	(2.4)	(2.9)	(4.7)	(5.3)	(7.0)	(8.0)	(6.9)	(4.3)	(13.1)
Child care, including babysitting	0.6	0.5	0.8	3.1	0.6	10.1	0.0	0.6	1.1
	(0.6)	(0.7)	(1.3)	(3.5)	(1.3)	(6.3)	(0.0)	(1.2)	(4.1)
Other	9.1	11.9	.8	3.7	2.4	11.1	7.5	5.2	7.0
	(2.3)	(4.8)	(1.3)	(3.5)	(2.7)	(7.4)	(6.2)	(3.6)	(10.1)
n	804	236	101	82	93	53	60	94	36

DIFFERENCE BETW <2 AND 3-5 YRS Occupations	All Conditions	Primary Disability Category Learning Disabled	Emotionally Disturbed	Speech Impaired	Mentally Retarded	Visually Impaired	Hard of Hearing	Deaf	Ortho-pedically Impaired
Percentage working as									
Professional, managerial, and sales workers	2.0	1.6	6.9	11.1	-1.4	9.5	10.4	2.3	2.4
	(2.6)	(3.8)	(4.0)	(7.3)	(2.8)	(10.7)	(7.7)	(4.3)	(27.0)
Clerical workers (e.g., stock clerks, secretaries, postal clerks)	-6.6	-9.1	-0.4	1.8	-4.4	3.0	4.1	5.5	11.2
	(3.6)	(4.9)	(6.0)	(11.2)	(7.9)	(12.9)	(14.3)	(10.6)	(22.3)
Craft workers (e.g., apprentices, mechanics)	2.4	1.8	7.5	4.2	2.6	-3.1	6.0	0.7	0.1
	(3.7)	(5.2)	(7.7)	(7.8)	(6.2)	(6.2)	(10.5)	(9.3)	(7.1)
Operatives (e.g., packers, service station attendants)	7.8	7.8	4.2	4.3	9.8	2.5	-18.9	5.5	-10.0
	(4.0)	(5.5)	(6.9)	(7.3)	(10.1)	(8.8)	(10.9)	(7.6)	(11.8)
Laborers (e.g., lawn mowing, grounds keepers)	2.1	0.9	8.5	-9.3	7.1	4.8	14.5	3.6	-7.3
	(4.9)	(6.8)	(9.0)	(9.8)	(10.5)	(8.9)	(11.6)	(6.9)	(18.2)
Service workers									
Janitors and maids	0.2	0.5	-2.2	1.7	-0.7	-3.1	1.2	3.3	-2.2
	(2.3)	(2.3)	(4.6)	(7.6)	(7.9)	(5.4)	(4.6)	(5.9)	(13.1)
Food service	-6.1	-6.5	-10.4	-11.8	-1.6	-5.1	-3.6	-12.6	10.8
	(3.8)	(4.9)	(7.9)	(9.3)	(10.3)	(12.3)	(10.3)	(8.3)	(14.0)
Child care, including babysitting	-1.9	-1.5	-1.3	-1.0	-3.9	-4.4	-1.5	-1.3	-10.8
	(1.4)	(1.7)	(2.6)	(5.1)	(4.1)	(10.0)	(2.8)	(2.7)	(13.3)
Other	0.3	4.4	-15.4	-1.0	-7.5	7.1	-12.2	-7.0	6.1

Engagement in Productive Activities Outside the Home
(Referenced in Chapter 7)

When youth leave secondary school, many enter the workforce immediately; others pursue education or training that might enhance their skills and employability in the future. Some youth combine both paths. Some, by choice or because of disability or other circumstances, do neither. The concept of productive engagement captures whether youth are involved in work- or education-related activities outside the home.

The NLTS definition of productive engagement encompasses youths' experiences in the preceding year, counting a youth as productively engaged outside the home if, at some time during the year, he or she was reported to have been involved in any one or more of the following activities (see Appendix C for further details of the construction of this measure):

- Paid or unpaid employment (competitive, sheltered, supported, or volunteer).
- Postsecondary education (enrollment in a postsecondary vocational or trade school or 2-year or 4-year college).
- GED preparation.
- Training in specific job skills (e.g., auto repair, food service) provided by someone other than a family member.

Table D7-1 indicates that competitive employment was the most common of these forms of productive engagement outside the home among engaged youth both when they had been out of school 1 to 2 years (77%) and 3 years later (87%). Postsecondary education involved 37% of engaged youth 1 to 2 years after secondary school but a smaller percentage who had been out of school 3 to 5 years (16%; $p<.01$). Rates of engagement in GED preparation (15% and 5%), job training (11% and 14%), and volunteer work (13% and 17%) were similar at the two time periods.

Because our measure of productive engagement involves youths' activities in the preceding year, only youth who had been out of secondary school at least a full year and no more than 2 years in 1987 are included in our analysis for our first time point; youth out of school less than a year at that time are not included because of their limited opportunity to have become engaged. However, at the second time point, all youth who were out of school by 1987 (0 to 2 years) are included because all youth had been out of school 3 to 5 years by 1990 and had equal opportunity to have become engaged in productive activities in the preceding year. Including this larger group of youth in analyses of the second time point

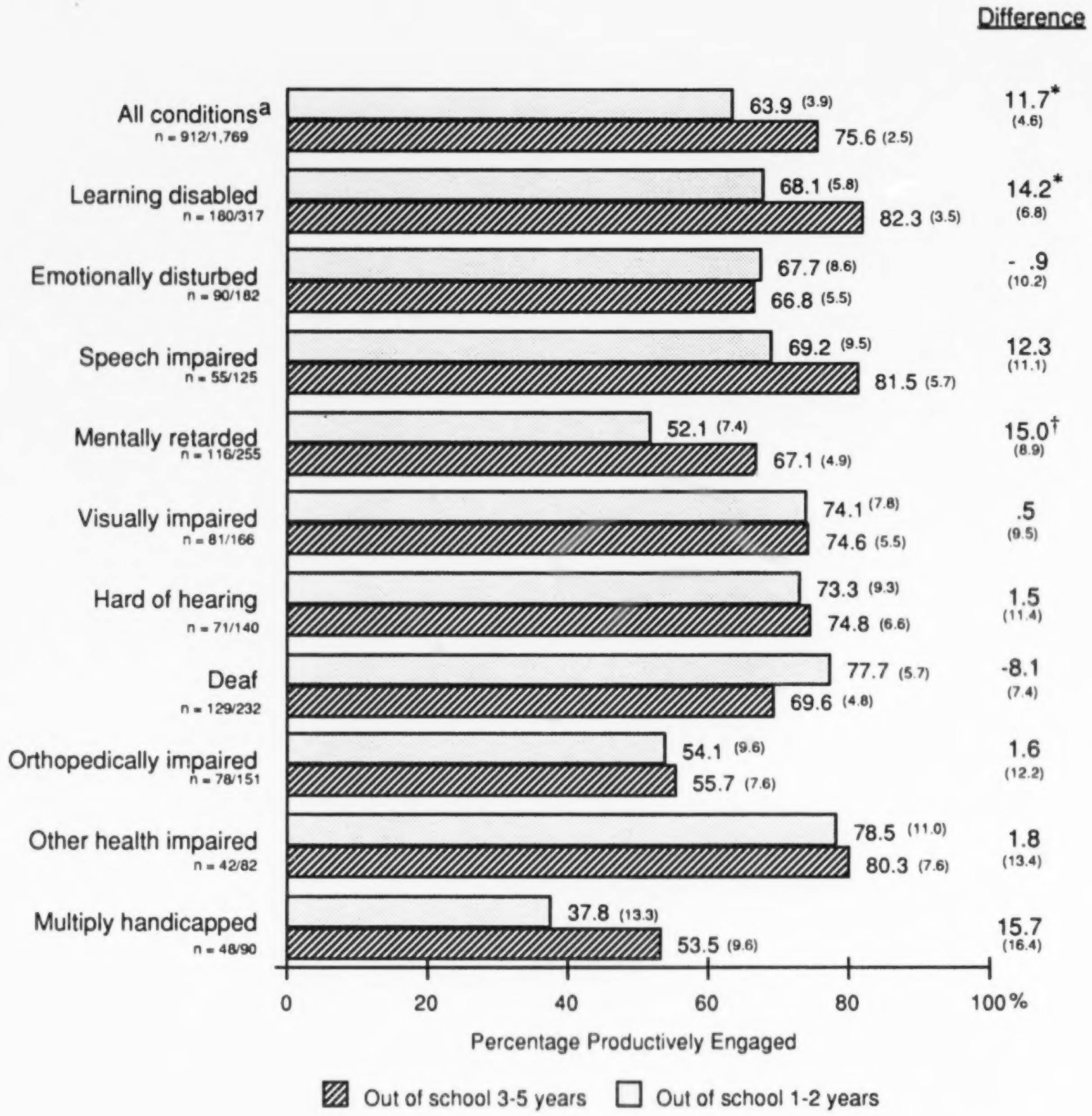
Table D7-1
ACTIVITIES OF YOUTH PRODUCTIVELY ENGAGED OUTSIDE THE HOME

Engaged Activities	Youth Were Out of School: 1 to 2 Years	3 to 5 Years
Percentage of productively engaged youth who in the preceding year had:		
Worked for pay	77.2 (5.7)	87.0 (2.3)
Received specific job skills training other than from family members	11.4 (4.4)	13.9 (2.3)
Enrolled in any postsecondary school	36.8 (6.6)	15.5 (2.5)
Taken courses to earn a high school diploma	15.3 (4.9)	5.1 (1.9)
Done volunteer work	13.0 (4.7)	16.8 (2.6)
n	399	1,285

Percentages do not add to 100% because youth could have been engaged in more than one activity.
Standard errors are in parentheses.

enables us to measure engagement with greater precision. Analysis of the smaller sample used at the first time point and the larger sample involved at the second time point shows that the two samples are virtually identical in disability characteristics, demographics, and levels of engagement; the only difference between them is that the smaller sample is marginally older because it is limited to youth who had been out of school longer. To the extent that greater productive engagement is related to increased age, the level of engagement for youth 1 to 2 years out of school may be overestimated relative to the level that would have been found had youth out of school less than 1 year also been included.

Figure D7-1 depicts the percentages of youth with disabilities who were productively engaged when they had been out of school 1 to 2 years and then 3 to 5 years. We find a significant increase in the level of engagement overall, from 64% of youth engaged in the preceding year at the first measurement to 76% engaged 3 years later (a gain of 12 percentage points, $p<.05$). Youth in the learning disabled, speech impaired, mentally retarded,



[a] "All conditions" includes youth in all 11 federal special education disability categories, percentages are reported separately only for categories with at least 30 cases.

Standard errors are in parentheses.

† p < .10, * p < .05

FIGURE D7-1 PRODUCTIVE ENGAGEMENT IN THE PRECEDING YEAR OF OUT-OF-SCHOOL YOUTH

and multiply handicapped categories experienced increases in engagement of between 12 and 16 percentage points, although the increases are statistically significant only for the larger groups of youth classified as learning disabled (14 percentage points, p<.05) and mentally retarded (15 percentage points, p<.10). The levels of engagement for all other categories of youth were virtually unchanged over time.

When youth had been out of school 3 to 5 years, significantly higher levels of engagement were noted for youth in some disability categories. For example, more than 8 of 10 youth were engaged in work- or education-related activities outside the home among those with learning disabilities (82%) or speech (82%) or other health impairments (80%), a significantly higher level of engagement than among those with orthopedic impairments, for example (56%; p<.05).

Table D7-2 demonstrates similar gains in levels of engagement for young men and young women with disabilities (13 and 11 percentage points), although the increase is statistically significant only for the larger group of males (p<.05). Neither were there statistically significant differences in the gains reported for men and women with the same disability classification. Despite fairly equal gains, however, young women had levels of engagement significantly below those of men at both time points, mirroring patterns observed for paid employment. When youth had been out of secondary school 3 to 5 years, 62% of young women were productively engaged outside the home, compared with 82% of men (p<.01). Among the young women who were not engaged when they had been out of school 3 to 5 years, 37% reported spending most of their time in raising children, keeping house, or caring for other family members, a form of productivity not captured in a measure focused on activities outside the home. Only 4% of unengaged men reported family and household responsibilities as the main claim on their time (p<.01). Young men who were not engaged outside the home were more likely than young women to say that they had spent most of their time recently "hanging out" or "doing nothing" (25% vs. 10%; p<.10).

Table D7-2
PRODUCTIVE ENGAGEMENT OF OUT-OF-SCHOOL YOUTH WITH DISABILITIES, BY YOUTH CHARACTERISTICS

Youth Characteristics	Percentage Who Were Productively Engaged When Out of Secondary School: 1 - 2 Years	3-5 Years	Difference Between 1 - 2 and 3-5 Years	n
Gender				
Male	69.1 (4.5)	81.7 (2.7)	12.6 * (5.2)	570/1,104
Female	51.3 (6.9)	62.0 (5.4)	10.7 (8.8)	342/665
Ethnic background				
White	65.9 (4.9)	76.6 (2.9)	10.7 † (5.7)	586/1,223
Black	55.9 (6.9) †	74.7 (6.0)	18.8 * (9.1)	218/346
Hispanic	74.9 (7.8)	68.6 (12.0)	-6.3 (14.3)	82/126
Secondary school completion status				
Graduate	64.5 (5.0)	81.8 (2.7)	17.3 ** (5.7)	532/1,201
Dropout	69.3 (7.6)	65.7 (6.0)	-3.6 (9.7)	137/274
Age out	47.2 (6.8)	69.7 (5.6)	22.5 * (8.8)	234/292

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† p<.10, * p<.05, ** p<.01

Both white and black young people with disabilities experienced significant gains in their levels of productive engagement outside the home over the time period studied: 11 percentage points and 19 percentage points, respectively (p<.10 and p<.05). Although Hispanic youth did not experience significant gains, their somewhat higher level of engagement when they had been out of school 1 to 2 years resulted in there being no significant differences in levels of engagement for youth with different ethnic backgrounds 3 years later; levels ranged from 69% engaged for Hispanic youth to 77% for white youth with disabilities.

Regarding secondary school completion status, Table D7-2 depicts significant gains in levels of productive engagement for both graduates (17 percentage points; p<.01) and those who aged out of school (22 percentage points; p<.05). However, dropouts experienced no such gain (69% vs. 66%). The relatively greater gain among graduates is consistent for youth in various disability categories. For example, among youth classified as learning disabled, graduates experienced a 23 percentage point gain in their level of engagement, compared with a 9 percentage point loss for dropouts (p<.05). The same pattern was apparent for male and female graduates, who experienced gains in their levels of engagement of 19 and 14 percentage points (p<.01 for males), compared with a loss of 1 percentage point for male dropouts and a gain of only 2 percentage points for female dropouts.

Hence, although 1 to 2 years after high school dropouts had virtually the same level of engagement as graduates (69% and 64%) and a significantly higher level of engagement than youth who aged out (69% vs. 47%; p<.05), the gains experienced by graduates made their level of engagement 3 to 5 years after secondary school significantly higher than that of dropouts (82% vs. 66%; p<.05). Further, the increases in engagement for those who aged out brought their level of engagement 3 to 5 years after secondary school virtually equal to that of dropouts (70% and 66%; not a significant difference).

The increase in the aggregate rate at which youth were productively engaged in work- or education-related activities outside the home also is reflected in the fluctuation in engagement we see for youth from one time period to the next. Table D7-3 demonstrates that more youth moved from being unengaged at the first measurement point to being engaged at the second (24%) than became unengaged between the two time periods (12%; p<.05), resulting in the increase in the total level of engagement among youth demonstrated in Figure D7-1. Additionally, 51% of youth had been engaged in the preceding year when measured at both time periods, whereas 13% had not been engaged in the preceding year at either measurement point.

Table D7-3
PATTERNS OF PRODUCTIVE ENGAGEMENT OVER TIME OF OUT-OF-SCHOOL YOUTH
(Percent)

	Productive Engagement Pattern[a]				
Disability Category	Unengaged at Both Times	Became Unengaged	Became Engaged	Engaged at Both Times	n
All conditions[b]	13.1	12.3	23.6	51.0	847
	(2.8)	(2.7)	(3.5)	(4.1)	
Learning disabled	7.6	9.9	26.5	56.0	171
	(3.3)	(3.8)	(5.6)	(6.2)	
Emotionally disturbed	18.5	20.2	9.4	51.9	78
	(7.7)	(7.9)	(5.8)	(9.9)	
Speech impaired	14.2	10.1	15.2	60.5	51
	(7.5)	(6.4)	(7.7)	(10.4)	
Mentally retarded	22.3	13.3	25.4	39.0	110
	(6.3)	(5.1)	(6.6)	(7.4)	
Visually impaired	12.4	13.5	9.8	64.2	76
	(6.1)	(6.3)	(5.5)	(8.8)	
Hard of hearing	12.9	20.6	13.4	53.1	67
	(7.2)	(8.7)	(7.3)	(10.7)	
Deaf	7.0	22.5	15.0	55.5	119
	(3.6)	(6.0)	(7.1)	(7.1)	
Orthopedically impaired	29.8	23.2	15.2	31.9	70
	(9.4)	(8.6)	(7.4)	(9.5)	
Other health impaired	7.6	7.3	12.1	72.9	40
	(7.4)	(7.3)	(9.1)	(12.4)	
Multiply handicapped	25.6	21.9	27.9	24.6	44
	(12.6)	(13.0)	(11.9)	(12.4)	
Gender					
Male	9.2	11.1	23.4	56.3	534
	(2.9)	(3.2)	(4.3)	(5.0)	
Female	22.4	14.9	24.1	38.5	313
	(6.0)	(5.1)	(6.1)	(7.0)	
Ethnicity					
White	8.9	12.8	24.4	54.0	568
	(2.8)	(3.2)	(4.1)	(4.8)	
Black	22.4	8.6	26.5	42.5	276
	(8.1)	(5.4)	(8.5)	(9.6)	
Hispanic	21.5	21.9	8.6	48.0	70
	(14.3)	(14.4)	(9.8)	(17.4)	
Secondary school completion status					
Graduate	11.1	8.7	25.1	55.1	497
	(3.4)	(3.0)	(4.6)	(5.3)	
Dropout	16.0	19.2	14.3	50.6	128
	(6.4)	(6.9)	(6.1)	(8.7)	
Ageout	17.2	13.4	34.9	34.5	215
	(5.4)	(4.9)	(6.8)	(6.8)	

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[a] Unengaged at both times = not involved in work- or education-related activities outside the home in 1987 or 1990.
Became unengaged = involved in work- or education-related activities outside the home in 1987 but not in 1990.
Became engaged = not involved in work- or education-related activities outside the home in 1987 but was in 1990.
Involved at both times = involved in work- or education-related activities outside the home in 1987 and 1990.

[b] "All conditions" includes youth in all 11 federal special education disability categories. Percentages are reported only for categories with at least 30 youth.

Standard errors are in parentheses.

As with many outcome measures we have examined, there are significant differences in the pattern of engagement over time for youth in different disability categories. First, the percentage of youth who were engaged at both time periods is significantly higher for youth with learning disabilities (56%) or visual impairments (64%), for example, than for youth with mental retardation (39%; p<.10 and p<.05) or orthopedic impairments (32%; p<.05). The movement in and out of the status of being engaged also varies by disability category. Whereas markedly more youth overall moved into engagement than out of it over time, this pattern was significant only for youth with learning disabilities (26% became engaged vs. 10% becoming unengaged; p<.05). In contrast, youth with emotional disturbances had a significantly lower percentage becoming engaged than did those with learning disabilities (9% vs. 26%; p<.05), whereas 20% of youth with emotional disturbances became unengaged between the two time periods. Among youth with speech, visual, or other health impairments, for example, the percentages becoming engaged and becoming unengaged were virtually the same. Rates of being consistently unengaged ranged from 30% of youth with orthopedic impairments to 7% of youth who were deaf (p<.05).

Gender differences also are apparent in that significantly more men than women were engaged at both points in time (56% vs. 38%; p<.05) and significantly fewer were engaged at neither point in time (9% vs. 22%; p<.05). Fluctuations in engagement status, however, were about the same for young men and women with disabilities. No significant differences in patterns of engagement are evident for youth with different ethnic backgrounds. However, when we examine patterns for youth who graduated from high school, we again see the apparent advantages of being a high school graduate. We find that significantly more graduates were engaged at both periods of time (55%) than was true of those who aged out of school (34%; p<.05). Although dropouts were about as likely as graduates to have been engaged at both times, dropouts who were not engaged in the early period were less likely to become engaged later than either graduates or those who aged out, significantly so in the latter case (35% vs. 14%; p<.05). Dropouts were about equally likely to have moved out of and into engagement, consistent with the lack of an increase in the aggregate rate of engagement for dropouts that we saw in Table D7-2.

SRI International
333 Ravenswood Avenue
Menlo Park, California 94025-3493

(415) 326-6200
TWX: 910-373-2046
Telex: 334486
FAX: (415) 326-5512

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